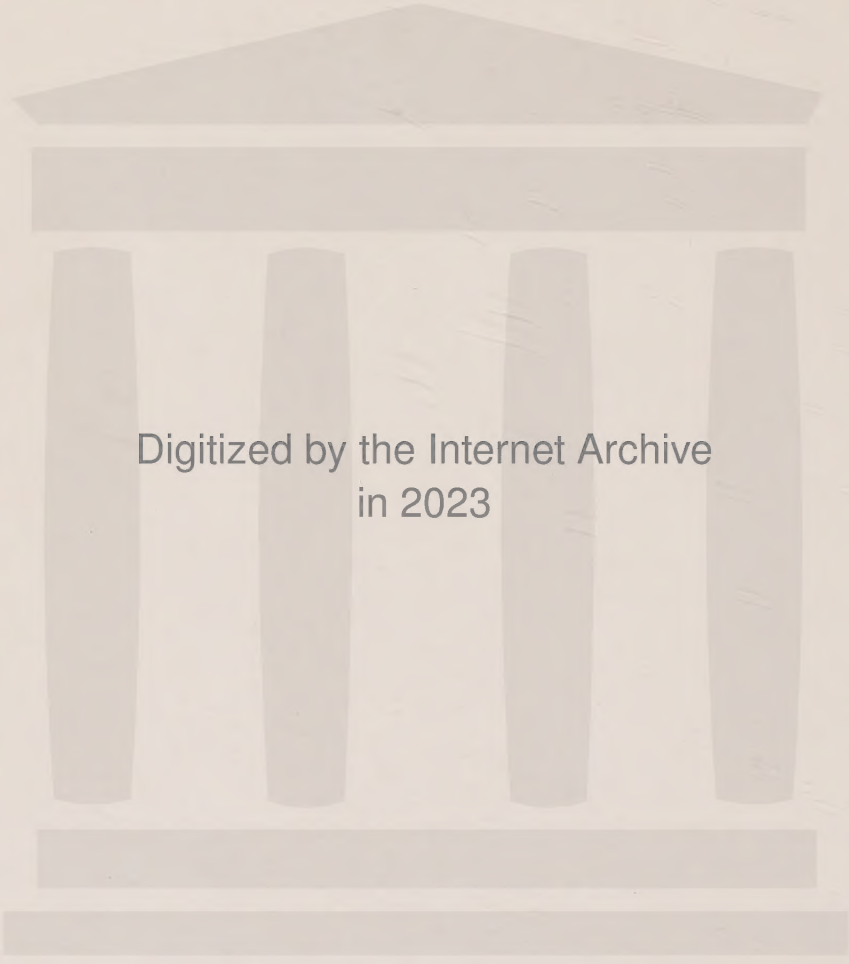
3 0108 00025 9130

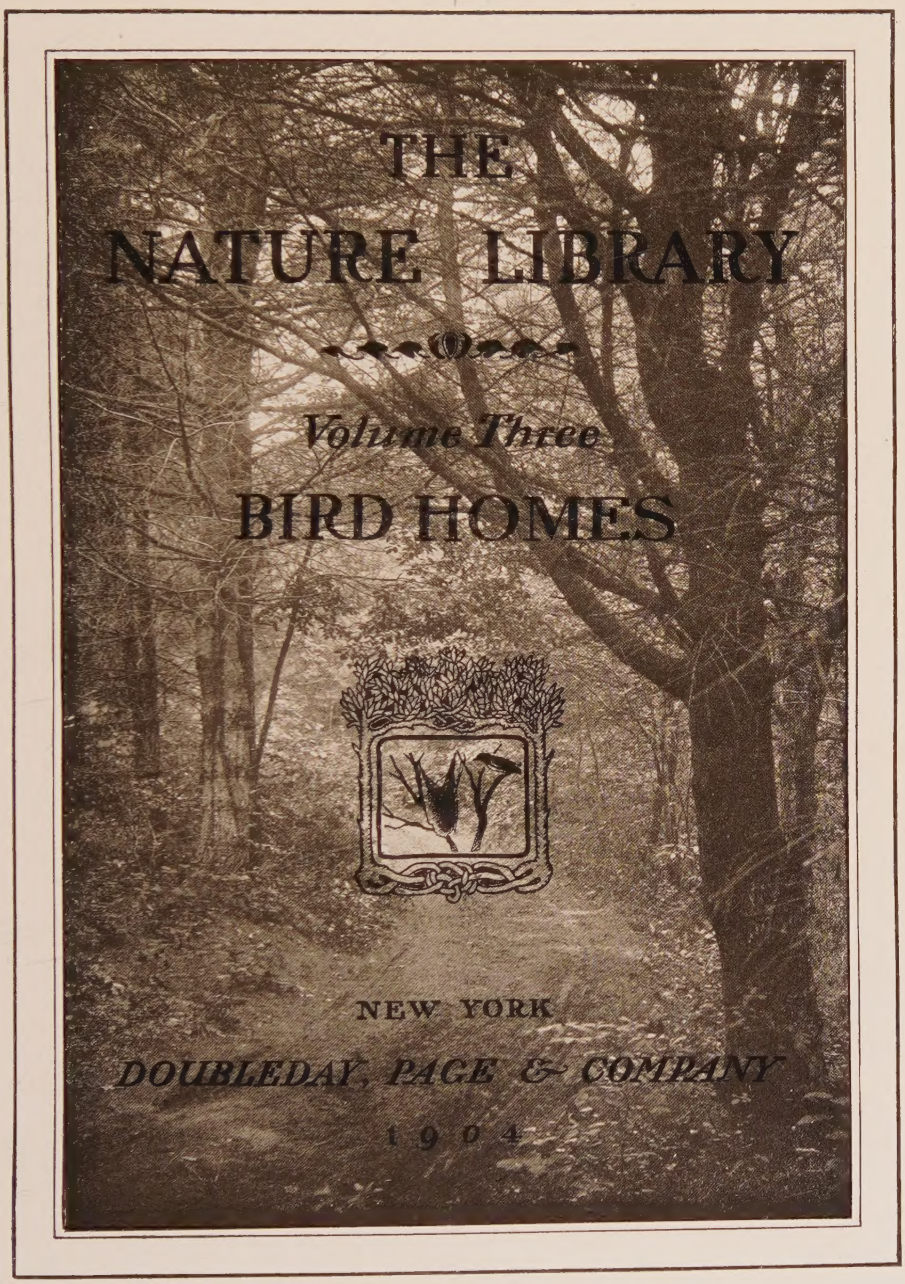

Digitized by the Internet Archive
in 2023

https://archive.org/details/naturelibraryvol0000unkn

GLOBULAR NEST OF THE LONG-BILLED MARSH WREN.

(The young bird was just leaving the nest as the photograph was taken.)

136



WITHDRAWN
FROM THE
CARL B. YLVISAKER LIBRARY
Concordia College, Moorhead, MN

Copyright, 1904, by
Doubleday, Page & Company

Copyright, 1900, by
Doubleday & McClure Company

Norwood Press:
Berwick & Smith Co., Norwood, Mass., U.S.A.

BIRD HOMES. THE NESTS EGGS AND BREEDING HABITS OF THE LAND BIRDS BREEDING IN THE EASTERN UNITED STATES; WITH HINTS ON THE REARING AND PHOTOGRAPHING OF YOUNG BIRDS

BY

A. RADCLYFFE DUGMORE

ILLUSTRATED WITH PHOTOGRAPHS
FROM NATURE BY THE AUTHOR

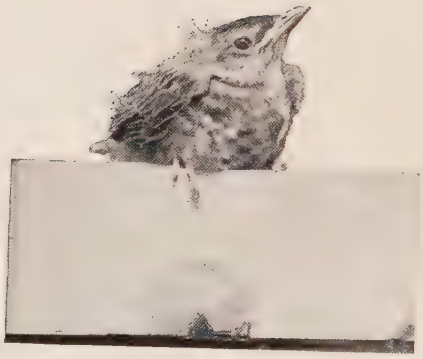
WITHDRAWN
FROM THE
CARL B. YLVISAKER LIBRARY
Concordia College, Moorhead, MN

NEW YORK
DOUBLEDAY, PAGE & COMPANY
1905

D87

Copyright, 1904, by
Doubleday, Page & Company

Copyright, 1900, by
Doubleday & McClure Company



1064G

Norwood Press:
Berwick & Smith Co., Norwood, Mass., U.S.A.

TO MY MOTHER
THIS BOOK IS AFFECTIONATELY
DEDICATED

CONTENTS

PART I

CHAPTER		PAGE
I.	Introductory	3
II.	Birds' Nests and Eggs	11
III.	Egg-Collecting and its Object	16
IV.	Photographing Nests and Young Birds	21
V.	Hints on the Rearing and Keeping of Birds	24
VI.	Notes	27
	Approximate Dates when Birds Begin to Nest	29

PART II

I.	Open Nests on the Ground, in Open Fields, Marshes, and Generally Open Country	35
II.	Open Nests in Woods, Thickets, Swampy Thickets	52
III.	Covered or Arched Nests on Ground:	
	Part I. Open Country	73
	Part II. In Woods and Thickets	74

CHAPTER PAGE

IV. Open Nests in Marshes, Reeds, Saw-grass, and Low Bushes in Open Country 77

V. Nests in Buildings, Bridges, Walls, Rocks, Banks, among Roots, Brush Heaps, and in Holes in the Ground 81

VI. Nests in Holes in Trees, Stumps, or Logs . . 96

VII. Semi-pensile, Pensile, or Hanging Nests . . . 114

VIII. Open Nests in Trees, Bushes, and Vines:

Part I. Large Nests in Trees . . . 122

Part II. Nests in Trees, Bushes, or Vines . 132

IX. Nests Saddled on Branches 172

LIST OF ILLUSTRATIONS

GLOBULAR NEST OF THE LONG-BILLED MARSH WREN (COLOUR)

Frontispiece

PAGE

WORM-EATING WARBLER FEEDING YOUNG i

YOUNG CATBIRD, A FEW DAYS AFTER LEAVING NEST . . iii

ROBIN JUST OUT OF NEST vi

BLUEBIRD, THREE WEEKS OLD vii

A TRIO OF BLUEBIRDS ON THE DAY OF LEAVING THEIR NEST ix

A NESTLING SONG SPARROW x

YOUNG BALTIMORE ORIOLES xi

CHICKADEES JUST OUT OF NEST xvi

IMMATURE MOCKING-BIRD xvii

BLUEBIRD, FOUR WEEKS OLD xviii

FACING PAGE

WOOD THRUSH ON NEST 4

ROSE-BREASTED GROSBEAK, ONE YEAR OLD 8

YOUNG PHŒBES LEAVING THEIR NEST 11

CRESTED FLYCATCHERS, TWO WEEKS BEFORE LEAVING NEST 12

FACING PAGE

Red-eyed Vireo's Nest in Which a Cowbird's Egg is Hidden by a Floor having been Placed over It . 13

The Same Nest with the Rightful Owner's Egg . . 13

A Section of the Same Nest, Showing the Position of the Two Eggs 13

White-eyed Vireo on Nest 14

Young Baltimore Orioles and Nest 15

Ruffed Grouse on Nest 18

Young Redstarts, Day of Leaving Nest . . . 18

Family of Oven-birds on the Day They Left Their Nest 20

Family of Young Chipping Sparrows Which Have Just Left Their Nest 20

Young Red-eyed Vireo the Day after Leaving its Nest 22

Young Yellow-billed Cuckoos, Twenty-four Hours before Leaving Nest 22

Family of Blue-winged Warblers, Showing the Young on the Day of Leaving Their Nest . . . 24

Male Rose-breasted Grosbeak, One Year Old, Taking Sun Bath 27

Bob-white's Nest Full of Eggs (Colour) . . . 36

Nest and Eggs of Bobolink, on the Ground in a Meadow 40

Vesper Sparrow's Nest 42

Plate B: Common Eggs (Colour) 44

Nest and Eggs of Field Sparrow, on Ground in Field of Dead Grass 46

FACING PAGE

Parent Field Sparrow Feeding its Young on the Day They Left Their Nest 46

Song Sparrow's Nest 48

Nest and Eggs of Brown Thrasher 50

Nest of Brown Thrasher on the Ground 50

Nest and Eggs of Ruffed Grouse 52

A Young Towhee Hiding beneath a Dead Oak Leaf . 64

A Mother Worm-eating Warbler and Her Young Family 64

Nest of the Worm-eating Warbler in a Bank . . 65

Nest of Blue-winged Warbler on Ground in Damp Scrub 66

Blue-winged Warbler on Nest 66

Same Nest Showing Young Bird Just Out of the Egg . 66

Nest of Maryland Yellow-throat (Colour) . . . 68

Nest and Eggs of Maryland Yellow-throat . . . 70

Nest of Wilson's Thrush (Colour) 72

Meadowlark's Dome-shaped Nest 74

Nest and Eggs of the Yellow-winged or Grasshopper Sparrow 75

Front View of the Oven-bird's Nest 76

Back View of the Same Nest 76

Arched or Domed Nest of Oven-bird, on the Ground in Woods 76

Nest of Red-winged Blackbird (Colour) 78

Florida Burrowing Owl at Entrance of the Burrow in Which its Nest is Situated 82

FACING PAGE

Phœbe's Nest Built on a Beam, according to the Most Up-to-date Style 86

Nest of Phœbe under a Stone Bridge 86

Barn Swallow's Nest of Mud Pellets and Straw . 88

Nest and Eggs of Rough-winged Swallow . . . 88

Brood of Young Barn Swallows at Time of Leaving Their Nest 90

Plate C: Common Eggs (Colour) 94

Pair of Young Screech Owls 98

Young Downy Woodpecker 101

The Downy Woodpecker's Home (Colour) . . . 102

A Brood of Young Flickers about to Leave Their Nest 104

Nest and Eggs of Crested Flycatcher 106

Interior of Chickadee's Nest with Young Birds . . 110

Chickadee about to Enter its Nest with Food for Young 110

Nest and Eggs of Bluebird in the Branch of an Apple-tree 112

Nest of Orchard Oriole 114

Young Orchard Orioles the Day of Leaving Their Nest 115

Pendant Nest of the Baltimore Oriole (Colour) . . 116

Nest of Red-eyed Vireo, with Young Bird about to Leave 118

A Fair Example of the Red-eyed Vireo's Nest . . 118

FACING PAGE

Basket-shaped Nest of the Warbling Vireo . . 118

Hanging Nest of the White-eyed Vireo (Colour) . 120

Plate A: Common Eggs (Colour) 130

Crow's Nest, with the Young nearly Ready to Leave 130

Young Crow a Few Days after Leaving its Nest . 130

Nest and Eggs of the Carolina Dove 132

Nest of Blue Jay in an Apple-tree 132

Young Kingbirds, Day of Leaving Their Nest . . 135

Nest and Eggs of Yellow-billed Cuckoo (Colour) . 136

Young Blue Jays Getting Ready to Leave Their Nest 138

Nest and Eggs of Blue Jay 138

Nest and Eggs of Chipping Sparrow 144

Plate D: Common Eggs (Colour) 146

Rose-breasted Grosbeak's Nest 148

Female Indigo-bird Feeding Her Young 150

Indigo-bird's Nest Attached to Upright Stems . . 150

Nest of Scarlet Tanager in Apple-tree, Nine Feet from the Ground 152

Nest of the Cedar-bird (Colour) 154

Nest of Yellow Warbler in Elder Bush, Five Feet from the Ground 156

Nest and Eggs of Chestnut-sided Warbler in Azalea, Two Feet from Ground 158

Brood of Young Chats 162

Yellow-breasted Chat's Nest (Colour) 164

Catbird's Nest, with Young 166

FACING PAGE

Young Catbird at Time of Leaving Nest . . . 166

Nest and Eggs of Catbird in Tangle of Vines, Three Feet from Ground 166

Young Wood Thrushes the Day of Leaving Their Nest 168

Nest of Wood Thrush, with Pieces of Newspaper Used in Construction 168

Robin on her Nest 170

Young Robin on Day of Leaving Nest 170

Nest and Eggs of Ruby-throated Humming-bird, Natural Size 172

Wood Pewee's Nest, a Good Example of Nest Saddled on a Branch 173

Nest of Least Flycatcher (Colour) 174

" . . . . . .

A bird's nest. Mark it well, within, without,
No tool had he that wrought, no knife to cut,
No nail to fix, no bodkin to insert,
No glue to join ; his little beak was all.
And yet how neatly finish'd ! What nice hand,
With every implement and means of art,
And twenty years' apprenticeship to boot.
Could make me such another ?"—HURDIS.

BIRD HOMES

BIRD HOMES

PART I

Chapter I

INTRODUCTORY

It has been suggested that a work on Bird Homes might do more harm than good, since it would add to the knowledge already possessed by the birds' human enemies. I think this surely a mistake ; a near acquaintance with our feathered friends in their homes will surely give to the most careless such an interest in the birds and their daily lives, such a new sense of companionship with them and affection for them, that it can but work for their good. Yet it may be as well to say emphatically at the outset : Make your object the *study of birds* through their nests and eggs. Don't add a new terror to the many that already beset anxious little bird-mothers by disturbing them during the breeding season or taking their eggs for a so-called "collection." If you stop at this you will lose some of the choicest pleasures that fall to the lot of the nature lover.

So far as I know, this side of the birds' life has been comparatively neglected. There are plenty of scientific works on oölogy and nidification, and so on, but hardly anything that deals with the subject from what might be called the "human" side. If this book helps the ordinary unscientific person to get some closer glimpse of the birds in their rôles as heads of a family ; to study their wonderfully adapted nests and beautiful eggs as manifestations of that bird nature which is so charmingly varied and so endlessly interesting—if it does this in any measure at all I shall be more than satisfied.

10646

CLEMSON COLLEGE LIBRARY

Every one agrees that the study of birds should be fostered and developed. The first thing is to teach people to *see*, and very few of those who have not gone into the matter sympathetically realise how little of the visible world of nature they do see. In particular are there recompenses for the patient observer who devotes himself to the beauties of bird-life. There are but few, especially among boys, who are really capable of doing systematic collecting of eggs, and unless formed with the utmost care and system, a collection is of not the slightest value. On the other hand, every one can be taught to *see*, to study the birds in connection with their nests, eggs, and young.

Birds have so many natural enemies that our first impulse should be to protect them. It is a dark reflection on man that, with all his much-vaunted intelligence, he should do more toward the destruction of birds than all other causes combined. And he certainly is one of their most relentless foes.

If laws were made, for instance, forbidding the sale of bird-skins for millinery purposes, what a boon it would be to our feathered friends! Much has been written and published on the subject by that most excellent institution, the Audubon Society ; but what little effect has it produced. Laws have been passed, though rather late in the day, prohibiting the killing of egrets in the South and of many varieties of the smaller birds in special States ; but these laws are to a great extent disregarded, and there are no adequate means for their enforcement. The destruction of birds' nests is forbidden ; yet there are endless "collections" made every season. How many boys—and men too—are there in every village who take every year large numbers of eggs which serve no purpose ! Their only idea is to get "a lot of them," which are gathered together without notes or observation, or even identification. All sparrow-like nests found on the ground are said to belong to the "ground sparrow" or "grass sparrow," or some such ambiguous bird. When the nest is found and the eggs are taken the entire aim of this "collector" seems to be satisfied ; the idea of making notes never even enters his head. If asked where some particular egg was taken, he replies vaguely : "I don't remember exactly, but I think it was in such a place, or perhaps some fellow gave it to me."

Thus it is that eggs are destroyed and with them the means of studying the birds during the most interesting period of their

WOOD THRUSH ON NEST

lives ; for where a bird's nest is, there is its home in the strictest sense of the word. It is true that most birds are wanderers ; they go south shortly after the young are fully grown, to return when the frost leaves the ground and the necessary supply of food can be obtained. But during the migration the bird is seldom resident for more than a few weeks in any one place ; he is restless and only awaits the time when he may get back to his nesting place of the previous year. Here, where he sings his love-songs and sets up housekeeping, is surely his real home and habitation.

In reading over the works of well-known ornithologists it is surprising to see how very little has been written about birds during the breeding season. The time occupied in nest-building; the period of incubation ; the appearance and habits of the young at different ages ; how long they remain in the nest, and so on—these and the many other facts which give each species and each bird family definite individuality, though they are of the utmost interest, have been to a great extent ignored. It is difficult to realise why this is. Of course it requires great patience and plenty of time to get accurate data of this sort ; but there are thousands of enthusiastic nature students, and particularly bird students, nowadays, and the difficulties only make it all the more important that every one who is really interested should endeavour to add all possible information that may be of value. And right here let me say that all original and authentic notes—and only these—are valuable.

Eggs of different birds of the same species, and indeed of the same bird, vary greatly both in colour, markings, and size, yet it is not at all necessary that every one should collect a large series to show such variations. Such collections may be found in museums when needed for comparison. Therefore I should say : Leave the egg where it belongs—in the nest—and visit it frequently (using all due caution against disturbing the owner even in this), making notes of anything of interest you may happen to see. You will be surprised at the number of things you will find that will prove of real interest, and you will surely be glad after your first experiment of this sort that you did not destroy the eggs, and with them your opportunity of gaining such an insight into the domestic life of Mrs. Robin Redbreast or Jenny Wren.

Last summer, while walking through the woods, I found a

yellow-billed cuckoo's nest containing two eggs, which showed that incubation was far advanced. It was three days before I had another chance to visit the nest. During this interval the young had hatched, and when I saw them they were little naked objects with but the first beginnings of pin feathers showing. Unfortunately, I did not know their exact age (as you can see, notes should be exact down to days and hours), but as I visited them day by day I noticed how the feathers grew. Instead of breaking through the envelopes gradually, as do the feathers of other birds, the little cuckoo's feathers remained sheathed and finely pointed until the day before the birds left the nest. Then in twenty-four hours *every* envelope burst, and the bird was completely feathered, with no trace of the sheathing except at the base of the tail. Had I taken the eggs I should not have been able to note this fact (which I have not been able to find any record of in the books) or to secure the amusing photograph which is reproduced further on.

While I deprecate the taking of eggs as being in most cases entirely unnecessary, I should strongly advise both boys and girls to *look* for nests. It will be a means of developing a love of nature in one of its most attractive forms, and it will stimulate the powers of observation and add to the knowledge of birds in striking degree.

The love of nature in any form is an acquisition well worth striving for. Besides adding enormously to one's interest in a walk, whether on the high road or along the woodland paths, it is a resource which would do a great deal towards banishing that silly phrase, "I wish I had something to do." How often do we hear people say that, even when living in the country where wild life in its thousands of different phases exists all around them, unnoticed by all except the very few who are devoting themselves to some particular study. Unfortunately the power of observation is lacking in most of us who have not been trained to it—we look without seeing. Mr. Burroughs says that "some people seem born with eyes in their heads, and others with buttons or painted marbles, and no amount of science can make the one equal to the other in the art of seeing things." But even those who by ill-fortune are born without keen eyes can by constant practice cultivate the faculty of observing to a surprising degree.

That so little is known about the common birds is a good il-

lustration of this lack of seeing ; even birds as conspicuous as the Baltimore oriole, the cardinal, or the scarlet tanager are as remote as birds of paradise to many people who live in the country. I have heard men and women ask whether these birds, which they had just seen as mounted specimens in some museum, were from South America or some other tropical country. They were much surprised when told how common these and others of equally brilliant plumage are within a few miles of New York City.

How many people who live in the country throughout the summer months, or even country folk themselves, have ever seen the rose-breasted grosbeak, a common and most gayly coloured summer resident? Or the yellow-breasted chat, or the Maryland yellowthroat, or the indigo-bird? Even these flashing bits of animated colour are generally unknown, while the less conspicuous birds, if seen at all, are called "sparrows" or "small birds."

Now that the public schools are taking up nature studies, we have good reason to hope that people will learn more about the birds. I think any woman who had seen a mother-thrush on the nest, with her anxious, wild, little eyes looking out in fear of the intruder, could never again wear a stuffed bird as a hat ornament, to be used for a short month or two and then thrown away. For herein lies, perhaps, the chief cause of the partial extermination of our birds, both those that are sombre in colour (for they can be dyed to any desired shade) and those that are by nature of brilliant hues. And who gains by this cruel sacrifice to a heartless fashion save the dealers?

Keeping native song-birds in captivity is forbidden in some States, the idea being, of course, to protect the birds. But this law undoubtedly does harm as well as good, for many people are thus prevented from becoming intimately attached to the common birds. Who, having once owned a bluebird, could injure one in any way or take its eggs? And the same applies to almost any other species. Then, again, children would become fond of such birds as they knew, and the cruelty displayed by some boys would be a thing undreamed of. In England, where I understand the song-birds are not protected by law, they are more abundant than anywhere else. What boy would kill an English robin—the robin redbreast—that he hears about in the earliest nursery rhymes and stories? He has been brought up to know and care for it, and it is therefore to be

reckoned as one of his friends. Here the robin, were it not protected by law, would be shot off for food purposes, and I think this comes largely from the fact that the bird, like all the other birds, is not *known* really intimately, and therefore not cared for. Only last summer an instance attracted my attention of the utter barbarism that exists among some boys in this connection. I had noticed a robin's nest containing eggs, and being anxious to obtain certain notes in connection with the young, I visited it again three days later. What I saw made me fairly sick at heart. The parent bird was hanging from a branch—dead. Some boy had fastened a fish-hook baited with a worm to the branch above the nest. The poor bird had swallowed the hook and had hung there to die a slow, lingering death by starvation. The young had also starved to death. Such cruelty seems almost incredible; yet it was done by a boy supposed to be of average intelligence, who was being educated at a good school.

Keeping pet birds is a much discussed question, but after all my experience I have no reason to believe that they are necessarily unhappy in captivity. Some of my birds have been out for a fly many times, but they always seem glad to return, and I am sure they enjoy themselves, even when in their cages. Of course they receive every care and are allowed a good deal of freedom; they have no cares, no trouble to search for food or shelter, and they are nearly always well, and to all appearances happy. The whole question is, of course, one that each person must decide for himself, but unless there is a great deal of certainty in one's mind it is surely better to give the birds the benefit of the doubt—and their freedom. One aspect of the case has been put acutely by a poet who loved birds and sympathised with them very fully. He says of his mocking-bird:

"We have sometimes discussed the question: Is it better on the whole that Bob should have lived in a cage than in the wild wood? There are conflicting opinions about it: but one of us is clear that it is. He argues that although there are many songs which are never heard, as there are many eggs which never hatch, yet the general end of a song is to be heard, as that of an egg is to be hatched. He further argues that Bob's life in his cage has been one long blessing to several people who stood in need of him: whereas in the woods, leaving aside the probability of hawks and bad boys, he would not have been likely to gain

ROSE-BREASTED GROSBEAK, ONE YEAR OLD

one appreciative listener for a single half-hour out of each year," and so on.

But I must remind all readers that any one who does keep pets incurs responsibilities along with the pleasure they bring. To deprive any wild animal of its liberty and then neglect it is sheer barbarity.

Having birds in this way affords almost the only means of studying the remarkable individuality possessed by different members of the same species. That each bird has a character peculiar to itself may be doubted by some, but I have never seen two individuals showing the same peculiarities. Two rose-breasted grosbeaks that have been reared together from the same nest, and are now eighteen months old, are different in almost every way. One is intensely jealous and objects to attention being paid to any other bird; the other seems not to know what jealousy means. One wants to sleep at night; the other keeps up a perpetual jumping from perch to perch until all hours. The female (who has most of the bad traits) never lets her mate have any little tid-bit in the way of food; no matter how much she has, she immediately seizes whatever is given to her better-natured companion. So it is with all the other birds; one will be naturally wild and timid; another knows no fear; one, though tame, cannot endure being touched; another, like a bluebird I have, wants to be handled most of the time, and is quite content if allowed to sit quietly (and go to sleep) inside a partly closed hand.

The method of eating adopted by each of the birds is quite individual. The wood thrush makes rapid and regular dips into the food-cup, taking only a small mouthful each time, but repeating the operation until its hunger is satisfied ; feeding takes place at rather long intervals. The yellow-breasted chat feeds somewhat after the same manner, but is not so quick or so dainty in its movements, and eats more frequently. The mocking-bird eats often and much, but does not draw his beak away from the cup between each mouthful. The bluebird eats fairly frequently and dips his beak into the food with a sharp jerk, pausing a second or two between each mouthful, and making a snap with his beak every time he takes the food. If given a live grasshopper, he carefully kills it, then *shakes off its legs* and swallows the entire body, afterwards gathering up the legs. The Baltimore oriole

seems to chew his food, and eats very frequently ; if given anything, either eatable or otherwise, he holds it, hawk-fashion, with his feet (or foot) and quickly picks it to pieces, usually prying it apart with his sharply pointed beak. The rose-breasted grosbeaks eat nearly all the time, even late at night, and I fancy this accounts for their tendency to become very fat when in captivity. So it may be seen that each bird is a study by itself.

Undoubtedly this same individuality exists in birds when in their wild state, perhaps even to a greater degree, but it is more difficult to discover. Some nests show individual peculiarities, but whether the same bird builds the same kind of nest each year is, of course, unknown.

The object of this book, I may repeat, is to stimulate the love of birds ; and though descriptions of nests and eggs are given, as well as instructions for egg-collecting, it must be borne in mind that it is generally neither necessary nor advisable that collections of eggs should be made. Remember that, as Mr. Frank Chapman says, the two points of interest in a bird's egg are " what the egg is in and what is in the egg." Much more knowledge may be gained by observing the birds themselves throughout the breeding season than by taking the eggs. Leave egg-collecting to those who are able, through scientific study, to make use of such collections and devote your leisure hours to the far more interesting process of collecting knowledge which will lend increased interest to your every-day existence and give you new insight into the fascinating world of bird-life.

YOUNG PHŒBES LEAVING THEIR NEST

Chapter II

BIRDS' NESTS AND EGGS

A careful examination of a bird's nest will convince any one that it is a work of art. One cannot help wondering at the ingenuity displayed by its architect. How carefully a bird adapts itself to environment is well illustrated by endless examples : the red-winged blackbirds (whose nests are usually built among reeds, flags, or bushes) make their nests very much deeper when the place selected is subject to strong winds than in more sheltered spots ; and then, as a further safeguard, the mouth of the nest contracts so that the eggs will not fall out when the flags are swayed by the wind. These clever birds have even been known to place their eggs in a deserted woodpecker's nest in places where the fish crows were numerous—for the fish crow is worse even than the jay as an egg and fledgling thief. In this way the redwings managed to elude their persecutors and saved their eggs and young from destruction.

Some birds readily avail themselves of new and favourable conditions. The phœbe formerly built its nest exclusively on rocks, but now that houses and bridges are to be found throughout the country, this bird has to a great extent changed its former custom, and it now builds nests on almost any sort of structure erected by man. This also applies to the barn swallow, while the chimney swift has taken possession of our chimneys, and almost forsaken the hollow tree-trunks, in which, but a few years ago, they built in large colonies.

How rapidly birds are changing their habits is not known, but it is evident from the few examples we have about us that a change is progressing, in some cases very noticeably.

Of course a bird's main idea when depositing its eggs is that they shall be safe from enemies of all kinds and from unfavourable weather conditions. With these objects in view it is interesting to

note the different methods employed. The whippoorwill builds no nest, but lays its eggs in a slight depression among the dead leaves. When the parent bird is sitting, her colour, which matches the leaves and dead wood, saves her from observation. The eggs themselves are much like either stones or the under sides of leaves, so they are difficult to find even when exposed. But if they are discovered, the parent bird carries them away to a new hiding place. The quail and many other birds, such as the meadow-lark and some of the sparrows, often arch their homes over with either the growing vegetation surrounding the nest, or with dry material brought for the purpose, and in some cases they build covered paths or entrances. The woodpeckers hide their eggs in natural holes in trees, or in holes hollowed out after much tedious labour by the birds themselves ; here the eggs are fairly safe ; squirrels, snakes, and human beings are about the only enemies to be feared. The crested flycatcher often makes use of a snake-skin in the construction of his nest, which occupies a hole in a tree. It is only reasonable to suppose that there is some object for his preference for this strange and apparently useless material. It may be that it frightens away would-be thieves, squirrels, jays, or crows (for the opening to the nest is often large enough to allow a crow to enter without difficulty) ; here is a case where authentic observations might tell us much of the bird's life-history.

The ruby-throated humming-bird saddles his tiny nest usually on a high branch, and covers it with lichen so that it resembles an excrescence on the branch. Why the long-billed marsh wren builds so many "dummy" nests, most of which are usually near the real nest, is not known, but it is presumably as a matter of safety, and for the purpose of misleading intruders, just as a parent bird will feign a broken wing to lure danger from the young.

The Baltimore oriole hangs his well-built nest, a masterpiece of bird architecture, on the extreme end of an overhanging branch where nothing but a winged enemy can reach it. To guard against these the nest is made so that it looks something like a hornet's nest—with which the jays, crows, or hawks would not care to interfere. Then, again, after all these precautions, the comfort as well as the safety of the young is thought of when the nest is built, the lower part being compactly and strongly made, while the walls are loosely woven so as to admit of free circulation of air. The eggs of the belted kingfisher are placed in a hole often

CRESTED FLYCATCHERS, TWO DAYS BEFORE LEAVING NEST

RED-EYED VIREO'S NEST IN WHICH A COWBIRD'S EGG IS HIDDEN BY A FLOOR HAVING BEEN PLACED OVER IT

THE SAME NEST WITH THE RIGHTFUL OWNER'S EGG

A SECTION OF THE SAME NEST, SHOWING THE POSITION OF THE TWO EGGS

The lower one is the Cowbird's

said to be arranged in tiers, with the smaller ends pointing towards the centre. It is curious to note that if the female bob-white is killed after the eggs are laid, the male bird takes upon himself the entire duty of incubating. This may not be an invariable rule, but a number of instances have been reported by reliable observers. Robins will sometimes build their nests in buildings or bridges with no vegetation in the immediate vicinity of the nest, and mocking-birds have chosen fence rails and other such queer places for their building sites.

In parts of the old world and in South America will be found birds that build extraordinary nests and have curious habits. The male hornbills have a remarkable custom of incarcerating the female in a hole in a tree during the period of incubation, by sealing up the entrance with mud, leaving a small opening through which she is supplied with food. Should the male be killed it is a question whether or not the female could free herself. This habit is doubtless a method of protection.

The nest of the tailor-bird is a good example of the skill displayed by birds in building and concealing their homes. They sew the edges of a large growing leaf round the nest, so that it is absolutely hidden from view. The bower-birds use queer materials, such as bones, pieces of metal, shells, etc., but perhaps the greatest curiosity supplied by birds is the nest of the esculent swift, known commonly as the edible bird's-nest, so much appreciated by the Chinese as a table luxury.

These are but a few examples of the endless variety to be found in bird architecture. It is a subject a full treatment of which would fill many volumes, and it is a study offering unusual attractions to all who want to do "original work" in nature subjects.

Chapter III

EGG-COLLECTING AND ITS OBJECT

A COLLECTION of eggs, to be of any real value, must be formed according to some prearranged method and for some definite purpose—not haphazard, with merely the idea of accumulating a great quantity of eggs. The amateur collector is generally without any notes, such as where found or the number in nest ; in fact, he is apt to have nothing but somewhat uncertain names of eggs obtained by exchange or purchased from some dealer—secured in any way so that the *number* be great. What, may I ask, has ever been gained from such a collection? And after the craze has lasted a year or two, the whole thing is put aside and forgotten, to be destroyed by neglect.

The object of a collection is to show not only the individual egg, but how conditions affect eggs of a given species in different parts of the country. Thus it is of the utmost importance that it should be known where the eggs were procured ; the date should be given, so that it may be possible to find out whether in different places the nesting season varies, and, if so, how great is the variation. The catalogue should contain exact information on these points, together with notes relating to the nest ; whether placed on the ground, or in bushes or trees, etc.

All notes should be made on the spot and *not* from memory. A small pocketbook should be carried for that purpose, and these notes ought finally to be arranged in a larger book, either in chronological order or under the name of each bird ; the latter is probably the better way as it is easier to refer to and needs no index. Be careful that all information is accurate. Anything taken from hearsay should be marked as such. In most cases it is better to have nothing but notes made from personal observation.

As I have said before, birds, though governed by certain rules, do occasionally change or modify their habits ; so that notes on

the habits of a given species should specify whether or not they were taken from an individual bird or from numerous individuals of that species.

Among the numerous points to be noticed may be mentioned the following: When birds are seen pairing; when nests are commenced; how long building; whether built by one or both birds; materials used in the construction, from where gathered; where the nest is placed; if on the ground, whether on a sod or tussock, in a tuft of grass or in a depression, in damp or dry places, in open country, in woods or in thickets; if in a bush, what kind of bush; the height from the ground; whether in a crotch, saddled on a branch or pendent; the size of nests; when the eggs are laid; interval between laying; period of incubation; whether both birds or only the female takes part in that duty; appearance of young when hatched, and at different ages; at what age they leave the nest; which of the parent birds provides the food, or whether both do; of what does the food consist; what becomes of the young when they leave the nest; and so on with the numberless points which go to differentiate one bird from another.

The period of incubation varies of course with different birds; for instance, with the white-eyed vireo it is about seven days; the indigo-bird takes ten days, the wood thrush twelve, and the ruffed grouse eighteen. The time should be taken from the day the bird actually commences sitting and not necessarily from the day on which the last egg is laid. Eggs are usually laid during the morning, between the hours of nine and eleven, but the bird does not always begin to sit the same day that the last egg is laid. Some birds commence sitting before laying the full complement of eggs; in these cases the young are hatched at intervals.

The age at which young birds leave their nests is not dependent on the *size* of the bird. The gallinaceous species, such as the grouse, quail, turkey, etc., being well developed when hatched, desert the nest within a few hours after leaving the egg; the young wood thrushes keep to the nest for ten days, by which time they are pretty well feathered, the tail being rather more than one inch in length; the white-eyed vireo leaves when seven days old; while the owls stay in their nest for several weeks.

A few birds build their nests indiscriminately on the ground or in bushes. In some localities certain birds almost invariably choose the ground, while in some other place, where conditions

do not appear to be in any way different, the same bird selects bushes. Notes of this kind are of interest and should be worth the trouble of systematic investigation.

Certain birds, such as the prairie horned lark, build several nests during the season, the first nest being constructed in a much more substantial manner than the second or third. This is probably owing to the change in the weather conditions. Early in the season the ground is damp from the frequent rains, while later on the ground becomes dryer and there is more protection from the weeds and grasses which surround the nest. Such observations as these soon lead one to realise that much more interesting information may be gathered by studying carefully, systematically, and intelligently the habits of the birds, together with the peculiarities of their nests and eggs, than by making collections of the eggs themselves.

In order to get a collection of eggs it is by no means always necessary to destroy the nest, or even to cause the birds to abandon it; that is, of course, unless you wish to have complete *sets* of eggs, and this may fairly be said seldom to be essential for the amateur or general student.

If you are fortunate enough to find a nest before the eggs are laid, watch for the first one. This should not be touched, but the second may be taken and sometimes a third and fourth; then leave the nest alone, and in most cases the bird will lay the complete complement.

Care should be taken not to disturb the nest or frighten the birds. In this way I have seen as many as six eggs taken from a single nest, and four more were afterwards laid and hatched.

Some birds are exceedingly shy and will desert their nests upon small provocation, especially if they are disturbed while building. Others, however, such as the golden-winged woodpecker and crested flycatcher, are difficult to drive away.

When eggs vary in size, shape, or colour, as those of most of the sparrows, the bobolink, and many others, it is an advantage to procure a fairly large number or series of sets, showing as many of the differences as possible; this adds greatly to the interest of a collection, particularly when the difference correlates with locality and varied conditions. A well-arranged collection of bird's nests, even without the eggs, is both picturesque and valuable. They should as far as possible be left as the bird had placed them;

YOUNG REDSTARTS DAY OF LEAVING NEST

RUFFED GROUSE ON NEST

if built in a bush or on a branch, enough of the support ought to remain with the nest to show by what method it was secured. With ground nests that are placed in tufts of grass, the tuft should be removed with the nest ; in the case of woodcock, ruffed grouse, or any bird that forms its nest roughly of leaves, a wire hoop covered loosely with muslin or wire gauze will answer the purpose ; this can be slipped under the nest so that it need not be disturbed.

When the eggs are laid in a hole in a tree it is not always feasible to cut down the tree or even the branch. Sometimes the branch can be cut just below the nest (taking care not to cut through the lower part of the nest itself), and then an opening can be made in order to show the eggs and whatever there may be in the way of a nest, leaving the original hole through which the bird had entered. If the nest is taken before the eggs are laid, or even when the bird has commenced sitting, during the early part of the season, not much harm is done, as the bird immediately begins building again. As the season advances it is better that the nest should be left until after the departure of the young, although then it is not in such good condition as before being used —particularly if it happens to be the nest of the cuckoo, which leaves its nest in a most filthy condition.

The egg-collector's outfit comprises a few drills of various sizes, a blow-pipe of either glass or metal (for home work those made of glass are preferable, as they are easily cleaned, but for the field metal is, of course, more serviceable), forceps of various sizes, scissors, and an embryo-hook.

When the eggs are fresh they are easily blown, and the hole should be very small ; the blow-pipe may be used by holding it *near* the hole and forcing air into the egg, thus emptying it of the contents. By this method the hole need not be large if the egg is fresh ; another way is to insert the end of the blow-pipe, when the contents may be quickly blown out.

The usual plan adopted by boys is to make two holes, one very small and the other varying in size according to the condition of the egg ; this has the disadvantage of making two holes, and when the egg isn't quite fresh, it takes a boy's stomach to stand it.

When the embryo has formed it is generally necessary to use the embryo-hook and to make a large hole. Never try to take

out the contents of an egg through a hole of insufficient size. In large eggs, the scissors or forceps come into use. If the embryo is very large soak the egg in water for a day or so.

It is of the utmost importance that the egg should be *thoroughly* washed, both inside and out, with either cold or tepid water, which may contain some weak antiseptic solution, but on no account must very hot water be used. The water should be taken up with the blow-pipe and discharged into the egg, repeating this operation several times. Finally dry *thoroughly*, letting it drain, hole downwards, on cornmeal, sawdust, blotting-paper, or sand if nothing else is obtainable.

In the case of white eggs their beauty is much enhanced by inserting a little pink cotton-wool ; this makes the specimen appear more as though the yolk were inside.

For field work have a few small metal boxes (such as those used for holding tobacco) filled with cotton wadding cut into squares, so that each egg may be wrapped up separately. Put on each a number, written lightly in pencil, referring to your field notes on that egg ; this saves a great deal of confusion, especially when many eggs are found in a day. The A. O. U.* check list number should be written on every egg to prevent the occurrence of any possible mistake.

If the collection consists of nests with the eggs a cabinet with glass top will be needed, so that the nests may be seen, while at the same time the air and dust may be excluded as much as possible ; camphor or naphthaline must be kept in the cabinet. Strong sunlight ought not to be allowed to fall on the eggs, for it causes them to fade, so it is advisable to keep the cabinet covered with some opaque material. Each nest should be marked either with a number referring to the catalogue, or with that and the name of the nest. If the collection contains only eggs, they should be kept in a cabinet with well-made drawers, each drawer divided off with partitions large enough to contain a complete set. The eggs may be laid on cotton, sawdust, sand, or finely grated cork, the last being perhaps the most suitable.

* American Ornithologists' Union.

A FAMILY OF YOUNG CHIPPING SPARROWS WHICH HAVE JUST LEFT THEIR NEST

FAMILY OF OVEN-BIRDS ON THE DAY THEY LEFT THEIR NEST

Chapter IV

PHOTOGRAPHING NESTS AND YOUNG BIRDS

In making notes on young birds the camera will be found to be most useful, as it shows exactly the growth of feathers and other points of interest ; but here again it is necessary to be particular as to the age of the bird. Guesswork will not do, as a single day often makes a great difference in the appearance of young birds. It is extraordinary with what rapidity they grow.

In order to secure good photographs great patience is necessary, especially so in the case of young robins and others of the thrush family, for they are very shy even before they can fly.

Any good long-focus camera with the regular lens will do, but of course a very rapid lens will give better results. The lens that has given me the greatest satisfaction, both on account of its rapidity and depth of focus, is the Goerz, series III.

My method of photographing the bird before it can stand is to place it on a piece of smooth white or light-gray paper laid on a flat surface and raised at the farther side so as to form a perfectly smooth blank background with no lines or creases ; this may be placed in the sunlight or shadow, according to the speed of the lens.

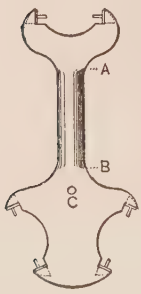
A very quick shutter is essential, owing to the rapid breathing of the bird when young and to its restlessness when able to perch (in a life-sized photograph the slightest movement shows unless the shutter works with unusual rapidity). Once the youngsters can fly, it is necessary to make some sort of enclosure ; this may be arranged temporarily by hanging some white cheesecloth in the sunlight, with a piece of mosquito netting at the top so as to allow sufficient light inside. Sunlight may be used to advantage in some instances to give striking effects of light and shade. (When sunlight is used, a developer rather weak in pyro will be found to give the best results.)

The dead branch of a tree makes a natural and effective perch for the bird to stand on ; it should be carefully selected, with no twigs that would be much out of focus. Then focus your camera on some particular point ; mark this lightly with a penknife and take the photograph when the bird stands on the marked place. When several birds are to be photographed together, they must be arranged so that each one shows in a different position from his companions. You may say that this sounds easy, but is most difficult to accomplish ; here is the time for the much-needed patience already mentioned.

Young birds may be photographed while in the nest, but this is not often satisfactory, since only the heads show. Especially in the case of the smaller birds is it difficult to get all parts in focus. Moreover, the location of the nest is generally in the shade, so that to get good results a time exposure is desirable. But the birds invariably move ; so, on the whole, I think the best results are to be obtained without anything in the way of accessories. This has been my experience, though others who have been more fortunate in getting good effects with the young in the nests think that is the better method.

When nests containing eggs are to be photographed it is better to choose a cloudy day, otherwise a screen should be used in order to soften the light, or the markings on the eggs will scarcely show in the picture, and the detail of the nest will often be lost in the strong light and shade. The screen may be made of cheesecloth or fine muslin, and a light, portable frame for it may be constructed of thin bamboo, arranged so as to fold and be carried with the tripod.

If the nest is photographed in bright sunlight, a piece of white paper or cloth may be used with advantage as a reflector in order to soften the shadows. When photographing ground nests the ordinary tripod is troublesome and difficult to tilt to the necessary angle. After trying various schemes, I am now using a device which works satisfactorily, its disadvantage being its weight. Three-ply wood should be used in making this, and the metal parts may be taken from an ordinary tripod top. The bar AB is cylindrical, ⅞ inch in diameter ; to this is clamped a ball-and-socket device, allowing the camera to tilt forward without moving the legs of



YOUNG RED-EYED VIREO THE DAY AFTER LEAVING ITS NEST

YOUNG YELLOW-BILLED CUCKOOS, TWENTY-FOUR HOURS BEFORE LEAVING NEST

Showing how late the feathers remain sheathed

the tripod. A hole may be made (C) so that the regular tripod screw can be used when taking photographs of other objects.

Occasionally it is desirable to take a photograph of the old bird on the nest, but this is by no means easy. The camera should be arranged and focussed on the nest while the parent bird is away, taking care to remove the leaves or twigs that would be out of focus in the immediate foreground. The instrument must be concealed to some extent by leaves and twigs, and the operator will have to take pains to see that nothing interferes with the working of the shutter. A long tube must be substituted for the short one, and either a large bulb or, if convenient, a bicycle hand-pump will answer the purpose admirably. In this way I have made time exposures with the camera fastened to the higher branches of a tree, where the shade made it necessary to give a five-second exposure and I found that the branch shook if I stood on it. Once a tube nearly forty feet long was used, and with the aid of the bicycle pump I got an excellent picture.

A very useful accessory to the bird-nest photographer's outfit is a pair of pruning clippers for removing small twigs and leaves.

The surroundings of the nest should not be disturbed more than one can help, since this gives an artificial appearance to the picture and is apt to frighten away the owners.

Chapter V

HINTS ON THE REARING AND KEEPING OF BIRDS

Most of the hard-billed birds and many of the soft-billed may be reared with ease, but the latter are rather more delicate. The hard-billed birds, so called, include the finches, sparrows, and any birds that break seed. The soft-billed are those that eat chiefly insects and fruit.

People often complain that their birds die from no apparent cause : my experience has been quite different, for though I have reared a good many birds of various kinds, I have never had but one death in my bird family, and that was a young redstart which had fallen from the top of a tree, where its nest was situated. I attribute my good fortune to the fact that my young birds get their meals with regularity *and with each meal a drink of water.*

I believe it is the lack of water that is responsible for so many deaths, especially when the birds are very young.

The best time to take fledglings is about a day or so before they are ready to leave the nest ; they are then fairly strong and have something to boast of in the way of looks.

When the nest happens to be a long way from home, it is necessary to feed the birds every hour *en route.* With any of the frugivorous varieties a blackcap or any thoroughly ripe berry may be given, but it should first be masticated. For regular diet during the first *two weeks* or so feed with mashed boiled potato thoroughly mixed with the yolk of eggs hard boiled ; this must not be used if in the least sour, and to guard against this it should be made fresh every day. A small smooth stick of hard, non-absorbent wood, such as clay-modellers employ, may be used for a spoon ; after each meal it should be dipped into water and a few drops put into the bird's mouth ; every hour this performance takes place, from six in the morning till nearly dark. You see

FAMILY OF BLUE-WINGED WARBLERS, SHOWING THE YOUNG ON THE DAY OF LEAVING THEIR NEST

bird children are almost as much trouble as the human variety, and no one should keep them who is not willing to take infinite pains.

The next article of diet should be ants' eggs (which may be procured from any bird fancier), mixed with the potato and eggs—a little at first, and gradually increasing the amount ; finally, with hard-billed birds, seed may be given as soon as the bill is hard enough, though at first it is sometimes necessary to crack the hemp-seed before giving it.

For soft-billed birds I know of nothing better than what is known as "mocking-bird food" ; this may be bought either in the dry or the moist form. The latter kind can be made from the following recipe :

6 parts corn-meal.
6 parts pea-meal.
6 parts German moss-meal.

Add a little melted lard and molasses, fry well for half an hour, keeping it well stirred. If put in a covered jar it will keep for a long time.

This is rather rich, and if found to disagree with the bird the dry form of food should be substituted, mixing it fresh every day with grated carrot and water sufficient to moisten it. Birds must be watched carefully to see that their food agrees with them ; except when moulting they should be lively and have good appetites; if such is not the case, it is probable that the food does not suit them, and a change should be made immediately. Occasionally birds have fits ; that is to say, they drop down without any warning, and either lie perfectly still, with feet upturned as though dead, or they revolve rapidly while on the ground. This happened to one of my favourite pet birds, and in despair I consulted a bird dealer, who told me to cut the nail and thus draw blood. I did so, but without any result. Several times on alternate days the poor bird had these fits, and every time we believed him to be dying. Finally, as a last resource, we changed his diet from the moist to the dry food with plenty of carrot, and from that day he has been perfectly well, very much to our delight.

It is advisable to give birds as much *ripe* fruit and green stuff as they wish. Young lettuce they are particularly fond of, but they will eat almost any young leaves.

Frequent baths will do much toward keeping birds clean and healthy ; every day or two they should be given, but it will be noticed that during the period of moulting the bath will be but little used.

Never put young birds, no matter how young they may be, in any artificial nest that differs essentially in texture from their own ; for example, a young crow or catbird should have sticks and not soft rags or cotton, but a young phœbe may get along very well in a cotton nest. The reason for this is that some birds require greater development of the leg muscles than others, and when quite young they keep their feet in constant motion, grasping the small twigs that form the inside of the nest ; in this way they develop and strengthen the necessary muscles of the leg. When unnatural conditions have prevented this exercise, I have known the birds to become partly paralysed and die, and I have no doubt that the absence of suitable rough material was the direct cause. Nature is very wise in regard to her children, and you will do well to follow her example whenever you are at a loss.

Should young birds become droopy, a little diluted whiskey or paregoric put in their mouths with a medicine-dropper will generally restore them to normal condition.

Cage-fighting invariably takes place sooner or later ; as a rule it only lasts a day or so, but if persisted in cover the cage with fine wire mosquito netting, so that the bird may not be able to get his beak through.

At night the cage should always be covered, otherwise the birds wake at amazingly early hours ; this applies more particularly to fledglings, as their waking means they *must* be fed, and it is not always pleasant to have to get up at daylight to minister to their wants.

MALE ROSE-BREASTED GROSBEAK, ONE YEAR OLD, TAKING A SUN-BATH

Chapter VI

NOTES

The illustrations of nests in this book are from photographs, which, with few exceptions, were taken without disturbing either the nest or its surroundings. In a few instances, such as the nests of the bluebird, downy woodpecker, and crested flycatcher, the branch was cut down, and an opening made in order to show the eggs. The photographs of both young and old birds are from life.

Under the headings of breeding range the reference is only to the United States, and only the land birds that breed in the Eastern States are described. The description of the plumage of each bird is not meant to be very complete ; the principal characteristics are given so that the bird may be recognised. No attempt has been made to give the notes or songs of the birds.

The number before the name of each bird is the number adopted by the American Ornithologists' Union check-list, and will save looking through the index when referring to other works on birds.

The book is arranged so that all the birds that build open nests on the open ground are in one chapter, those that build open nests in woods or thickets are in another chapter, and so on. In cases where a bird builds usually in a bush but sometimes in the open fields the description is given under the heading of nests in bushes, etc., and the name of the bird, together with the colour of the eggs, is referred to in its numerical order in the chapter of nests in open fields, etc. Thus, for example, if an arched nest is found in a field or swamp, it will be necessary to look in Chapter III. But it may be the nest of a seaside sparrow, which is rarely arched ; in that case you will be referred to Chapter I for the description. All measurements of birds and eggs are given in inches and hundredths.

The sign ♂ signifies male, and ♀ female.

Notes

I must acknowledge my indebtedness to many works, in particular to the following : Frank M. Chapman's "Handbook of Birds," Davie's "Nests and Eggs of North American Birds," H. D. Minot's "The Land Birds and Game Birds of New England," Charles Bendire's "Life Histories of North American Birds, with Special Reference to their Breeding Habits and Eggs," and the A. O. U. check-list of North American birds.

APPROXIMATE DATES WHEN BIRDS BEGIN TO NEST

THESE DATES APPLY TO THE VICINITY OF NEW YORK (WITHIN ONE HUNDRED MILES OF THE CITY) EXCEPT WHEN THE BIRD'S RANGE IS NOT WITHIN THAT AREA, OR WHEN OTHERWISE SPECIFIED

January : First week.	352	Bald Eagle (Fla.)
February : Fourth week.	349	Golden Eagle (Cal.)
" " "	375	Great Horned Owl
" " "	484	Canada Jay (Me.)
" " "	521	American Crossbill
March : First week.	328	White-tailed Kite (S. C.)
" " "	331	Marsh Hawk
" " "	362	Audubon's Caracara
" Second "	368	Barred Owl
" Third "	367	Short-eared Owl (Ohio)
" " "	474*b*	Prairie Horned Lark (Iowa)
" Fourth "	372	Sawwhet Owl
" " "	373	Screech Owl
" " "	392	Ivory-billed Woodpecker (?)
Some time during March.	326	Black Vulture
	330	Swallow-tailed Kite
	339*a*	Florida Red-shouldered Hawk (Fla.)
	356	Duck Hawk (Southern States)
	395	Red Cockaded Woodpecker (?)
	479	Florida Jay (Fla.)
	729	Brown-headed Nuthatch
April : First week.	316	Mourning Dove
" " "	332	Sharped-shinned Hawk
" " "	337	Red-tailed Hawk
" " "	343	Broad-winged Hawk

April : First week.	366	American Long-eared Owl
" " "	488	American Crow
" " "	766	Bluebird
" Second "	360	American Sparrow Hawk
" " "	456	Phœbe
" " "	727	White-breasted Nuthatch
" " "	761	American Robin
" Third "	300	Ruffed Grouse
" " "	305	Prairie Hen (Kansas)
" " "	333	Cooper's Hawk
" " "	365	American Barn Owl
" " "	511	Purple Grackle
" " "	547	Henslow's Sparrow (Ill.)
" " "	593	Cardinal
" Fourth "	329	Mississippi Kite
" " "	364	American Osprey ; Fish Hawk
" " "	394	Downy Woodpecker
" " "	663	Yellow-throated Warbler
Some time during April.	289*a*	Florida Bob-white (Fla.)
	320	Ground Dove
	325	Turkey Vulture
	327	Swallow-tailed Kite
	339	Red-shouldered Hawk
	378*a*	Florida Burrowing Owl (Fla.)
	416	Chuck-will's-widow (Fla.)
	513	Boat-tailed Grackle (Fla.)
	575*a*	Bachman's Sparrow
	731	Tufted Titmouse
May : First week.	390	Belted Kingfisher
" " "	406	Red-headed Woodpecker
" " "	409	Red-bellied Woodpecker
	412	Golden-winged Woodpecker ; Flicker.
" " "	477	Blue Jay
" " "	501	Meadow-lark.
" " "	533	Pine Finch ; Siskin (New England)
" " "	560	Chipping Sparrow
" " "	563	Field Sparrow
" " "	581	Song Sparrow

May : First week.	613 Barn Swallow
" " "	617 Rough-winged Swallow
" " "	676 Louisiana Water-thrush
" " "	703 Mockingbird (Va.)
" " "	718 Carolina Wren
" Second "	393 Hairy Woodpecker
" " "	467 Least Flycatcher
" " "	494 Bobolink
" " "	498 Red-winged Blackbird
" " "	542*a* Savanna Sparrow
" " "	546 Yellow-winged or Grasshopper Sparrow
" " "	584 Swamp Sparrow
" " "	587 Chewink ; Towhee
" " "	601 Painted Bunting
" " "	610 Summer Tanager
" " "	611 Purple Martin
" " "	614 Tree Swallow
" " "	616 Bank Swallow
" " "	638 Swainson's Warbler
" " "	652 Yellow Warbler
" " "	654 Black-throated Blue Warbler
" " "	658 Cerulean Warbler (?)
" " "	674 Oven-bird
" " "	675 Water Thrush
" " "	683 Yellow-breasted Chat
" " "	704 Catbird
" " "	705 Brown Thrasher
" " "	721 House Wren
" " "	726 Brown Creeper
" " "	735 Chickadee
" " "	755 Wood Thrush
" Third "	289 Bob-white
" " "	388 Black-billed Cuckoo
" " "	420 Nighthawk (New England)
" " "	423 Chimney Swift
" " "	452 Crested Flycatcher
" " "	461 Wood Pewee
" " "	490 Fish Crow
" " "	506 Orchard Oriole

May :	Third	week.
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	Fourth	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"

507 Baltimore Oriole
517 Purple Finch
540 Vesper Sparrow
549 Sharp-tailed Sparrow
550 Seaside Sparrow
595 Rose-breasted Grosbeak
612 Cliff Swallow
624 Red-eyed Vireo
627 Warbling Vireo
631 White-eyed Vireo
636 Black-and-white Warbler
639 Bachman's Warbler
659 Chestnut-sided Warbler
681 Maryland Yellow-throat
687 American Redstart
722 Winter Wren
724 Short-billed Marsh Wren
725 Long-billed Marsh Wren
756 Wilson's Thrush
428 Ruby-throated Hummingbird
444 Kingbird
459 Olive-sided Flycatcher
598 Indigo Bunting.
608 Scarlet Tanager
641 Blue-winged Warbler
648 Parula
655 Myrtle Warbler
662 Blackburnian Warbler
677 Kentucky Warbler
684 Hooded Warbler
759*b* Hermit Thrush

Some time during May.

298 Canada Grouse
445 Gray Kingbird
567*e* Carolina Junco
575 Pine-woods Sparrow
597 Blue Grosbeak
604 Dickcissel
622 Loggerhead Shrike
637 Prothonotary Warbler
751 Blue-gray Gnatcatcher

June : First week.	387 Yellow-billed Cuckoo
" " "	400 Arctic Three-toed Woodpecker (?)
" " "	417 Whip-poor-will
" " "	465 Acadian Flycatcher
" " "	558 White-throated Sparrow (New England)
" " "	619 Cedarbird
" " "	645 Nashville Warbler
" " "	657 Magnolia Warbler
" " "	686 Canadian Warbler
" Second "	758*a* Olive-backed Thrush
" Third "	529 American Goldfinch
" Fourth "	661 Blackpoll Warbler
Some time during June.	552 Lark Sparrow 567 Junco ; Snowbird 583 Lincoln's Sparrow (Col.) 667 Black-throated Green Warbler 728 Red-breasted Nuthatch

PART II

Chapter I

OPEN NESTS ON THE GROUND, IN OPEN FIELDS, MARSHES, AND GENERALLY OPEN COUNTRY

289. Bob-white; Quail: Colinus virginianus (Linn.)

Adult ♂—Plumage: Upper parts reddish brown, with more or less complete black bars; rump warm rich gray, slightly mottled and streaked with nearly black marks; tail very gray; head black in front of crown; black band across breast; throat and superciliary line white, belly whitish. Length—10.00.

Adult ♀—Duller, black band on breast indistinct.

Breeding Range—Throughout the Eastern States, from Maine to the Gulf of Mexico.

Nest on the ground in open fields, grain fields, scrubby places, and frequently along a roadside, near a stone wall or fence. Usually the nest is open, but it is sometimes roughly arched; it is loosely made of grasses, leaves, weeds, and straw. The eggs are white, more or less stained with light brown, varying in number from 10 to 18, though sometimes as many as 25 are laid (Davie). Size—1.20 × .95.

The Quail, Bob-white, or Partridge is so well known that but little need here be said of it. Except during the breeding season, the birds are always to be found in bevies, or they might be called families, which, when scattered by the sportsman, reunite and continue living in or about the same locality. The mating season begins very early in May, and eggs are to be found from the third week in May until late in the summer, and rarely

even in early fall, two or three broods being reared by a single pair. Incubation occupies 24 days, both birds assisting. Minot, in his book, "The Land Birds and Game Birds of New England," says, "It is not uncommon to find a covey of young quail hardly able to fly even in November."

The nest is fairly easy to find, especially when the parent bird is not sitting, as the white eggs are very conspicuous ; but when the old bird is on the nest her protective colouring serves its purpose and makes her difficult to see. A likely place for the nest is on a farm, in the dry, grassy fields, or along the farm roads where there is a rank growth of weeds.

289a. Florida Bob-white: C. v. floridanus (Coues)

This is a sub-species of the more northern quail, being smaller and darker in colour. Length—8.50. The breeding habits are described as identical, except that "they begin to pair early in March."

305. Prairie Hen: Tympanuchus americanus (Reich.)

Adult ♂—"Upper parts barred with rufous and black, and spotted with rufous ; sides of the neck with tufts generally composed of *ten* or more narrow, stiffened black feathers marked with buffy and rufous, their ends *rounded*, the skin beneath these tufts bare ; tail rounded, fuscous, the inner feathers somewhat mottled with ochraceous-buff, tip white, throat buffy, breast and belly white, evenly barred with black.

Adult ♀—"Similar, but the neck tufts much smaller and the tail barred with ochraceous or rufous. Length—18.00." (Chapman.)

Breeding Range—The prairies of the Mississippi Valley, east to Kentucky and western Ohio, and north to southern Manitoba.

The nest, which is placed in a slight hollow in the ground, is made of grasses and feathers; it is usually found in the prairie grass, "and at the foot of bushes on the barren ground." 8 to 14 eggs are laid; they are grayish buff, sometimes speckled with brown. Size—1.70 × 1.25.

The Prairie Hen is said to be now much less common throughout its eastern range than it was formerly, though it is

BOB-WHITE'S NEST FULL OF EGGS.

still the common game bird of the Central States. The habits during the mating season have been well described by Colonel Goss. "They select a smooth open courtship ground (usually called a scratching ground), where the males assemble at the early dawn to vie with each other in courage and pompous display, uttering at the same time their love call, a loud booming noise; as soon as this is heard by the hen birds desirous of mating, they quietly put in an appearance, squat upon the ground, apparently indifferent observers, until claimed by victorious rivals."

They breed towards the end of April in Kansas and Nebraska. Incubation occupies from three to four weeks.

325. Turkey Vulture or Buzzard: Cathartes aura (Linn.)

Eggs creamy white with brownish or reddish blotches and purplish spots.

See Page 57, Chapter II.

326. Black Vulture: Catharista atrata (Bartr.)

Eggs bluish white with dark brown blotches.

See Page 58, Chapter II.

331. Marsh Harrier or Marsh Hawk: Circus hudsonius (Linn.)

Adult ♂—Upper parts light bluish gray; rump white; tail barred black or brownish; breast light gray at upper part shading into white; belly white barred warm brown.

Adult ♀—Upper parts dark brownish; wing coverts edged with light rusty brown; under parts dark buff streaked with brown.

Immature birds resemble the adult ♀ without the streaks on the belly. ♂ Length—19.00.

Breeding Range—The entire United States.

The nest is placed on the ground, and is "from three to seven inches high and a foot or more in diameter;" it is formed of grass, twigs, and sometimes moss. The eggs are white or bluish white, occasionally marked with pale brown spots. Size —1.80 × 1.45.

The Marsh Harrier, or Blue Hawk as it is sometimes called, is easily recognisable by its white rump, which during flight is very conspicuous. They may be seen in almost any marshy or low scrub land, flying within a few feet of the ground or hovering in mid-air watching for their prey. During the mating season the male bird performs the most remarkable evolutions in mid-air, with the evident intention of winning the admiration of his would-be mate. They "frequently begin to incubate with the first egg and the young are hatched at intervals." The nesting season begins in Massachusetts early in May. Davie says that fresh eggs may be found from May 1st to June 15th or 20th, according to locality. The nests are placed in open marshes or low lands.

364. American Osprey or Fish Hawk: Pandion haliaëtus carolinensis (Gmel.)

Eggs very variable in colour. At times white or creamy white, either unmarked, oftener very heavily blotched with browns and chocolate.

See Page 129, Chapter VIII.

367. Short-eared Owl: Asio accipitrinus (Pall.)

Adult—Upper parts except tail brownish, the feathers edged with buff; the tail has bands of deep buff and dark brown; breast light to dark buff with streaks of dark brown, heavily marked on breast and more finely on belly; the ear-tufts are very short and close together. Length—15.50.

Breeding Range—Throughout the United States.

The nest is made of soft grass, sticks, and a few feathers from the parent bird, and is placed on the ground in a depression, beneath a log or in a burrow (Davie). 4 to 7 white eggs are laid. Size—1.55 × 1.25.

The Short-eared or Marsh Owl, unlike most other members of its family, lives away from the woods and may generally be found in large swamps or marshes. Formerly it was known to breed in Massachusetts, but Brewster says, "I know of no authentic record of its breeding in any part of New England

within the past ten years." In Ohio the nesting season begins about the end of March.

420. Night-hawk; Bull-bat: Chordeiles virginianus (Gmel.)

Adult ♂—Upper parts dark blackish brown mottled with buff; wings dark brown with conspicuous white patch; breast black, feathers tipped with white or buff; throat white; belly grayish white, barred with black; tail dark brownish, barred with buff, a white band near the end of all but the two middle feathers.

Adult ♀—Nearly the same, the throat being buff instead of white and no white on tail. Length—10.00.

Breeding Range—Throughout the Eastern States.

There is no nest, the eggs, two in number, being laid on the bare ground in a field, on rocks, or even on the flat roof of a building either in the country or in the big cities. The eggs are olive-buff, light gray, or greenish, with numerous irregular blotches and specks or thickly marked with evenly distributed spots of darker gray, olive, and purplish. Size—1.20 × .86. See Fig. 9, Plate B.

These birds, though called Night-hawks, do a great deal of flying during the daytime, especially towards the end of summer, when they may be seen at almost any time of day flying about over the open country. They are sometimes mistaken for the whip-poor-will, though the white patch on the wing and the white throat should serve to identify them. Their flight is also very different, and generally, though by no means always, they fly higher than the whip-poor-will. Late in the afternoon they may be seen flying high above the city, looking almost like large bats.

The eggs are exceedingly difficult to find, as their colouring so closely matches the ground; even when the bird is startled from the eggs and tries, as many birds do, to divert attention from the eggs to herself, by a pretended broken wing or leg, it is often only after a long and careful search that the eggs are discovered.

The nesting season in New England begins about the end of May.

420b. Florida Night-hawk: C. v. chapmani (Coues)

This bird differs from the preceding in that it is smaller, being little more than 8½ inches in length instead of 10 inches, and the lighter markings on the upper parts are more numerous.

474b. Prairie Horned Lark: Otocoris alpestris praticola Hensh.

Adult ♂ —Forehead and line over eye whitish ; crown black with tufts on either side ; from the eye to the bill, and sides of throat, black ; throat white or very pale yellow ; back salmon brown ; lower parts white or whitish ; breast has a crescent-shaped black patch.

Adult ♀ —Differing but little from the ♂, the markings being less defined. Length—7.25.

Breeding Range—Upper Mississippi Valley, to eastern New York and western Massachusetts.

The nest, which is placed on the ground in a slight depression, is made of "dry grasses and corn leaves, lined with a few feathers and horse hairs." 3 to 4 eggs are laid. They are very pale bluish green, or pale olive thickly and evenly speckled with light brownish and lilac. Size—.84 × .62. See Fig. 10, Plate B.

This bird so nearly resembles the horned lark that it may easily be confused with it, unless both kinds be at hand for comparison. Its smaller size and lighter colour should serve to distinguish it, and if found nesting, the fact that it breeds within the United States, whilst the horned lark seeks the more northern parts of North America and Europe. Formerly it was not known to breed in the more eastern States, being an inhabitant of the prairies, but since conditions have changed with the advent of civilisation and large tracts of country have been cleared, it has become fairly common in parts of its eastern range.

Two or three broods are reared during the season, the first nest being built as early as the end of March (in Iowa), and the third as late as the beginning of August. The first nest is said to be elaborately made, while the second and third are put together in a slovenly manner. This may be attributed to the fact that during the earlier part of the season the weather is likely to be bad for ground nests, owing to the frequent rains, thus neces-

NEST AND EGGS OF BOBOLINK ON THE GROUND IN A MEADOW

sitating the building of a stronger nest than would be required during the finer weather of June and July.

The nests may usually be found in dry fields of either grass or corn.

494. Bobolink: Dolichonyx oryzivorus (Linn.)

Adult ♂—Breeding plumage: Forehead, throat, and under parts black, the feathers being slightly tipped with light buff during the earlier part of the season; back of head and neck light buff; back, dark dusky feathers with buff markings; upper part of rump whitish; wings and tail black, the tail feathers having pointed tips.

Adult ♀—Upper parts dark buff with black streaks; wings and tail brown; under parts light buff.

Adult ♂—Except during breeding season and when immature resembles the female. Length—7.25.

Breeding Range—Southern New York to Nova Scotia, west as far as Utah.

The nest is placed on the ground in meadows, and is formed of grass with occasionally a few leaves, the inside being lined with fine grass. Usually it is an open nest about one and a half inches deep inside, but sometimes it is partly concealed by grass bent over so as to form a sort of rough arch. 3 to 6 and rarely 7 eggs are laid. They vary greatly both in colour and size, ranging from white with distinct chocolate markings, to grayish buff with large brown blotches which nearly cover the ground colour; in size they range from about .55 × .79 to .66 × .90—the average is about .63 × .85. See Fig. 2, Plate B.

He who has not had the pleasure of hearing and seeing the Bobolink during the breeding season has a great treat in store. This sweet little songster seems to be the very embodiment of pure happiness, spending most of his time singing the song that has inspired both poet and author. Probably no bird of the New World has been so frequently mentioned in the literature of the country. While the bird is in flight the song is particularly enchanting, reminding one to a certain extent of the European skylark, though it is perhaps richer in tone.

To find the bird is very different from finding the nest; it takes many hours of patient searching. You may hide near the

edge of some likely looking field, and watch each female bobolink as she drops in the long grass to where you think her nest may be; but when you arrive at the place she flies up, and in vain you may search for the carefully concealed nest. The most satisfactory method is for two persons to walk through the field holding either end of a cord along which sticks should be fastened at intervals. These striking the grass frighten the sitting bird, and she flies up directly from the nest, instead of running along through the grass, as she usually does when she sees her disturber.

The best place to find these birds during the breeding time is in the large tracts of moderately moist meadow land, usually not very far from water. The nest is completed about May 15th in northern New Jersey.

Long before the breeding season the male is conspicuous with his fine feathers, but in early August he dons the same colours as his mate and children, when they all start in large flocks for their winter quarters in South America, stopping in a leisurely manner *en route* among the reedy swamps, and visiting again the rice-fields which were in the springtime the scene of the depredations of the old birds. Then it is no longer a day of riotous song; that day is forgotten, for now it is that the so-called sportsman claims them under the name of Reedbird, and instead of being seen perched on the tall swaying grass or reed, you may look for them in the markets, hung up in bundles of a dozen or so, each happy little life gone, leaving but a mouthful or two of food.

501. Meadowlark: Sturnella magna (Linn.)

Eggs white spotted with reddish brown, chiefly at the larger end.

See Page 73, Chapter III.

540. Vesper Sparrow; Bay-winged Bunting: Poocætes gramineus (Gmel.)

Adult—Upper parts brownish gray with dark streaks; tail dark brown, *the outer feathers white;* under parts grayish buff streaked with black. Length—6.12.

Breeding Range—From southern Virginia northward; westward to the plains.

VESPER SPARROW'S NEST

The nest is always placed on the ground, generally at the root of a tall weed or small bush in an open field ; it is slightly made of coarse and fine grass and small roots, lined with horse-hair. 4 or 5 eggs are laid ; they are whitish, thinly spotted and blotched with warm brown and lilac, with sometimes a few black markings. Size—.80 × .60. See Fig. 13, Plate B.

These sparrows are distinguished by the white outside tail feathers, which are extremely noticeable when the bird flies. Do not mistake it for a junco or titlark ! They are among the commonest of the sparrows in parts of Long Island and in New England, where they commence breeding towards the end of May, raising as many as three broods during the season. They are called Vesper Sparrows from their habit of singing until quite late in the evening.

542a. Savanna Sparrow: Ammodramus sandwichensis savanna (Wils.)

Adult—Upper parts brownish, darkly streaked ; pale yellow line over the eye and at the bend of the wing ; under parts white or whitish streaked with dark brown. Length—5.65.

Breeding Range — From southern New Jersey northward to Labrador.

The nest is built on the ground in fields or pasture land inland, or in the salt marshes and grassy places on or near the coast; it is a flimsy structure of grasses, rarely of moss, lined with fine grass and occasionally horse-hair. The number of eggs varies from 3 to 6; they are white or greenish white, with fine brown spots or large blotches of cinnamon. The variations in colour are so great that any accurate description is scarcely possible. Size—.78 × .56. See Fig. 15, Plate B.

This little sparrow is generally to be seen along the sea-coast, though it is also found inland. Minot speaks of seeing them breeding in the White Mountains, where he found a nest containing fresh eggs the 23d of July. They begin nesting in May, and rear two or three broods.

Care should be taken that the Savanna Sparrow is not confused with either the sharp-tailed, seaside, or Ipswich sparrow; the latter, however, does not breed in the United States, but is a northern-breeding species, which, after the breeding season, comes on our northern Atlantic seaboard.

546. Yellow-winged or Grasshopper Sparrow: Ammodramus savannarum passerinus (Wils.)

Adult—Upper parts dark or dusky, the feathers being bordered with buff; back of neck warm brown; tail feathers rather short and pointed; under parts buffy, shading into white on the belly. The most distinctive features of this bird are the bright yellow at the bend of the wing and the darker yellow in front of the eye, Length—5.20.

Immature birds have the breast spotted with dark brown or nearly black.

Breeding Range—From the Gulf States to New England, probably not north of Massachusetts.

The nest is either arched or opened. It is made of grass, with fine grass and occasionally horse-hair for lining, and may be found in open fields, usually where the grass is short ; often it is placed under an upturned sod or beneath a tussock. 4 to 5 eggs are laid; they are white, with few or many reddish brown spots, mostly around the larger end. Size—.73 × .56. See Fig. 14, Plate B.

The Yellow-winged Sparrow spends nearly all the time on the ground, running through the grass, and only taking wing when forced to do so. When he does fly he gets up with a great deal of noise for so small a bird, and takes a zig-zag course during his short flight, which is seldom more than a few yards.

The nesting season in the neighbourhood of New York begins about the middle of May. In Illinois eggs have been found from April 20th to August 12th. Two broods are reared during the season.

547. Henslow's Sparrow: Ammodramus henslowii (Aud.)

Adult—Head dark olive-green ; either side of crown black ; back warm brown ; tail feathers sharply pointed, the middle feathers longest ; breast buffy with black streaks ; belly white or whitish; yellow at bend of wing and in front of eye. Length—5.00.

This bird might be mistaken for the yellow-winged sparrow; its darker colour, greenish tone on back of head, longer tail, with the outside feathers the shortest, should serve to distinguish it.

Immature birds in first plumage have no spots on the breast. (Chapman.)

PLATE B.—Common Eggs.

1. Sharp-tailed Sparrow.
2. Bobolink.
3. Lark Sparrow.
4. Song Sparrow.
5. Field Sparrow.
6. American Redstart.
7. White-throated Sparrow.
8. Brown Thrasher.
9. Nighthawk.
10. Prairie Horned Lark.
11. Seaside Sparrow.
12. Cedar Waxwing.
13. Vesper Sparrow.
14. Grasshopper Sparrow.
15. Savanna Sparrow.
16. Prairie Warbler.
17. Bewick's Wren.

Breeding Range—The Eastern States, from Virginia to Massachusetts, "westward to the edge of the plains."

The nest is somewhat roughly built of coarse grass, placed on the ground often in a slight depression, or close against a tussock in the open fields. The eggs, 3 to 5 in number, are white or nearly white, with distinct brown and purplish spots, more numerous at the larger end. Size—.73 × .56.

This shy and unobtrusive sparrow is rather difficult to find, owing to its habit of remaining in the thick grass unless forced to fly. In its short, jerky flight it resembles its near relation, the yellow-winged or grasshopper sparrow. Generally speaking, it prefers the more moist fields to those that are very dry. The nest, as in the case of other birds of similar habits, is well and carefully hidden in the grass. In Illinois, eggs have been found as early as April 20th and as late as August 12th. Mr. Brewster says that this sparrow breeds commonly but very locally in the eastern part of Massachusetts, quite numerously in portions of Worcester County, sparingly and locally in Berkshire County.

549. Sharp-tailed Sparrow: Ammodramus caudacutus (Gmel.)

Adult—Upper parts greenish brown; a light gray line through centre of crown, which is brown; bend of wing light yellow; throat and belly white or whitish; breast light buffy brown with dark streaks. The tail feathers, as the bird's name implies, are very sharply pointed, the outer feathers being much shorter than those in the middle. Length—5.85.

Breeding Range—From South Carolina along the coast to New Hampshire.

The nest is placed on the ground in the sedge or grass in or near the salt marshes; it is built of dry sea-weed and grasses, fine grasses being used for the lining. 4 or 5 eggs are laid, usually 5; they are white or whitish with numerous fine brown or reddish spots chiefly at the larger end. Size—.77 × .55. See Fig. 1, Plate B.

The Sharp-tailed Sparrow resembles the seaside sparrow in its choice of locality, being found always near the salt water, choosing for its nesting place either the brackish or salt-water swamps, or

the sandy ground near the swamps, where it may be seen running in and out among the coarse grass, more like a mouse than a bird. Great care should be observed in identifying the nests, as they may easily be mistaken for the nests of the seaside sparrow, both birds generally breeding near each other in the same swamp. The eggs of the sharp-tailed sparrow are somewhat smaller and more finely marked ; the nest is usually placed where it is rather drier ; it is also more bulky.

The breeding season lasts from May to late July, two broods being reared during that period. The young may be found until well into August.

550. Seaside Sparrow: Ammodramus maritimus (Wils.)

Adult—General appearance dusky gray ; upper parts grayish ; tail brown with narrow, sharply pointed feathers ; throat and breast gray, slightly streaked with darker gray ; belly white, shading into gray at sides ; light yellow patch in front of eye and at bend of wing ; the toes are rather long, and the bill is long and slightly thicker than the sharp-tailed sparrow's, though much the same shape. Length—6.00.

Breeding Range—Along the Atlantic coast from North Carolina northward, rarely on the coast of Massachusetts.

Nest, resembling closely that of the sharp-tailed sparrow, only not so bulky, placed on the ground in or near brackish or salt water swamps, built of reeds and grasses lined with fine grass. Usually 4 eggs are laid; they are white or whitish, finely speckled with light reddish brown and lilac. Size—.80 × .63. See Fig. 11, Plate B.

All that has been said of the sharp-tailed sparrow applies equally to these lovers of the sea-coast. In exceptional cases the nests are said to be found arched over.

550a. Scott's Seaside Sparrow: A. m. peninsulæ Allen

This is a southern sub-species of the seaside sparrow, being found from the more northern parts of Florida on the Atlantic coast to South Carolina, and on the Gulf coast from Florida to Texas. The most noticeable difference is in the dark streaks on

NEST AND EGGS OF FIELD SPARROW ON GROUND IN FIELD OF DEAD GRASS

PARENT FIELD SPARROW FEEDING ITS YOUNG ON THE DAY THEY LEFT THEIR NEST

Like most birds whose nests are on the ground, the Field Sparrows abandon their homes very early in life

the breast and sides, which are much more sharply defined in the southern variety. The nesting habits are described as being identical.

552. Lark Sparrow: Chondestes grammacus (Say)

Adult—Head reddish brown with a whitish line through crown and over the eye ; upper parts ashy brown with dark streaks ; tail feathers dark brown with white tips ; under parts white or whitish, a black line on either side of throat, and a black spot on breast. Length—6.25.

Breeding Range—"Throughout the Mississippi Valley, from eastern Texas and Louisiana on the south to Iowa and southern Michigan on the north." Accidental on the Atlantic coast.

The nest is usually placed on the ground in prairie land or pastures ; it is made of grasses, twigs, and fine roots, lined with hairs. 3 to 4, and not more than 5, eggs are laid. In some cases they are said to resemble closely the eggs of the Baltimore oriole, though as a rule the markings, consisting of very dark brown and lilac scrawl-like lines, are more confined to the larger end ; the ground colour is white, sometimes tinged with blue or buff. Size—.80 × .63. See Fig. 3, Plate B.

The Lark Sparrow, Lark Finch, Quailbird, or Road-bird, as he is variously named, has scarcely the right to be called a resident of the Eastern States, being but an occasional visitor. In localities where they are regular residents they are said to "often repair the nests of the mocking-bird and orchard oriole with a lining of grass, horse hairs, etc." Their eggs have also been found "in the nest of the scissor-tailed flycatcher," and though occasionally the nest is built in bushes or even trees, it is usually on the ground. The breeding season lasts from May to July.

558. White-throated Sparrow: Zonotrichia albicollis (Gmel.)

Eggs white, tinged with either blue or yellow, with fine marks and heavy blotches of various browns.

See Page 60, Chapter II.

563. Field Sparrow: Spizella pusilla (Wils.)

Adult—Upper parts light chestnut brown, finely streaked with brown; under parts light buff shading into white on the belly; *bill pinkish.* Length—5.68.

"Young in first plumage have breast streaked with black." (Chapman.)

Breeding Range—From South Carolina to Canada.

The nest, which is placed either on the ground or in low bushes, is built of grass, fine roots, and occasionally leaves, with the lining of hair or fine grass. 3 to 5 eggs are laid, varying considerably in their colour and markings; some eggs have the ground colour, which is white or greenish white, nearly covered with small reddish spots—rarely blotches—while others have scarcely any spots. Size—.70 × .52. See Fig. 5, Plate B.

These delightful little sparrows are easily recognised by the distinctive reddish or coral-coloured bill and by the long light chestnut tail. They lay their eggs about May 1st near New York, laying two or three sets during the season, which lasts with them until late July. The nests may be found in the open fields, in thickets, and sometimes in scrubby clearings; they are, as a rule, placed on the ground, or in a tussock of either green or dead grass. In some places, however, they are most often to be found in low bushes. While on the nests these birds are usually averse to human visitors; they glide off quietly through the grass, flying up when at some distance to a bush or tall weed, where they give utterance to their anxious little note of reproach. Their song, though small in volume, is decidedly sweet in tone; it may be heard most often in the early hours of the morning, almost before dawn, or late in the afternoon and evening.

567. Snowbird; Junco: Junco hyemalis (Linn.)

Eggs greenish or bluish white with fine spots and sometimes blotches of reddish brown and lilac, chiefly in a wreath round the larger end.

See Page 61, Chapter II.

SONG SPARROW'S NEST.

581. Song Sparrow: Melospiza fasciata (Gmel.)

Adult—Upper parts rich brown streaked with black, the head having a light gray line in the centre, either side of the crown being brown; throat and breast light gray, with brown marks which usually form an irregular blotch on the breast. Length—6.30.

Breeding Range—Throughout the Eastern States. "East of the Alleghanies, it breeds from South Carolina north to the British provinces."

The nest varies greatly both as to the materials used in its construction and to where it is placed; sometimes it is a bulky structure of coarse grass, weeds, leaves, and bark, lined with hair, being as much as two and a half inches deep inside, and then again it may be a flimsy, shallow affair made of grass and lined with fine grass; it is placed on the ground, in open fields or in woody places, or it is sometimes built in bushes as high as five feet from the ground. The eggs vary greatly, both as to colour and size, ranging from .76 to .85 in length and from .55 to .60 in diameter; the ground colour is white, sometimes tinged with green or blue, with irregular brownish blotches and markings, which in some cases nearly conceal the ground colour. See Fig. 4, Plate B.

The Song Sparrow shows a nature of such extraordinary adaptability to all sorts of conditions that in this one respect he proves himself to be a remarkable little character—a character very well worth studying. Everything about him is made and done with apparently but little regard to rules of any kind. Each season he rears an indefinite number of families, ranging from one to four. The nests are made in various sizes, of various materials, and built in any sort of place, from an old tin can to a hole in a tree, but usually either on the ground or in a bush; if on the ground it may be in a fine large breezy meadow, where the ground is dry, or on the top of a tussock in a swampy thicket.

The time for singing his familiar song varies greatly both as to hour and season; one must not be surprised if at any hour of the day or night his song is heard, whether it be on a bleak March day or when the trees have taken on the glories of the rich autumn colouring; time and place matter but little to this happy songster. Nesting begins about May 1st.

583. Lincoln's Sparrow: Melospiza lincolni (Aud.)

Eggs greenish white or brownish white spotted and blotched with lavender and chestnut or brown, more thickly at the larger end.

See Page 62, Chapter II.

604. Dickcissel; Black-throated Bunting: Spiza americana (Gmel.)

Adult ♂—Forehead yellowish; head gray; back brownish, dark streaked; yellow line over and back of eye and on side of throat; throat white with black patch; breast yellow shading into white on the belly.

Adult ♀—General colour duller, with black patch on throat. Length—6.00.

Breeding Range—"From Texas to Minnesota" (Recent Eastern Records).

The nest may be found either on the ground in open fields and prairies or in bushes or trees; it is built of "leaves, grasses, rootlets, corn-husks, and weed stems; the lining is of fine grass and often horse hair." 3 to 5 pale blue eggs are laid. Size—.80 × .60.

In Iowa the nesting season begins in May, continuing until August.

705. Brown Thrasher: Harporhynchus rufus (Linn.)

Adult—Upper parts bright orange-brown or rufous; under parts white with black spots forming longitudinal streaks; bill long with downward curve; the tail is over five inches long. Length—11.42.

Breeding Range—From the Gulf States to Canada.

The nest is placed indiscriminately on the ground or in low bushes; it is rather bulky and roughly made of twigs, vine tendrils, roots, bark, and leaves, "lined with horse hair and a few feathers" (Davie). Those that I have found in New Jersey were in every case lined with fine black rootlets. 3 to 5 and rarely 6 eggs

NEST AND EGGS OF BROWN THRASHER

NEST OF BROWN THRASHER ON THE GROUND

are laid ; they are whitish, bluish, or greenish, with numerous fine light brown specks evenly distributed. Size—1.08 × .80. See Fig. 8, Plate B.

The Brown Thrasher is also known under the names of Ground Thrush, Brown Thrush, and in Virginia he is known as the Sandy Mocking-bird, and further south as the French Mocking-bird. In some localities they prefer bushes and thickets, while in others they build almost exclusively on the ground. My own experience has been that most of the nests were found on the ground, near tall weeds, in an open field; very few were in bushes.

While on the nest these birds, like their relatives the wrens, sit very close, allowing themselves to be almost caught, but once they leave the nest their manner changes and they become intensely noisy, making a great pretence of attacking the intruder, uttering repeatedly their harsh, scolding note.

During the very early hours of the morning or late in the afternoon the brown thrasher may be seen perched on the topmost branch of a tree, singing a song, full and rich in tone, resembling somewhat that of the European song thrush.

The nesting season begins about the second week in May.

Chapter II

OPEN NESTS IN WOODS, THICKETS, SWAMPY THICKETS

289. Bob-white; Quail: Colinus virginianus (Linn.)

White eggs.

See Page 35, Chapter I.

289a. Florida Quail: Colinus virginianus floridanus (Coues)

White eggs.

See Page 36, Chapter I.

298. Canada Grouse; Spruce Partridge: Dendragapus canadensis (Linn.)

Adult ♂—General colour dark grayish brown or nearly black, barred on the back; breast mottled with whitish and buff, excepting lower part of breast, which is black tipped with white. *Bright red skin over eye.*

Adult ♀—Upper parts lighter than in the ♂. Length—15.00.

Breeding Range—The more northern parts of New England and New York, northward.

The nest, which is carefully hidden, generally beneath a low-lying spruce branch, is composed of leaves, dry ferns, moss, twigs, and sometimes weedy grass, placed on somewhat swampy ground in the dense northern forest. The eggs, numbering from 8 to 16, are buff-coloured, with irregular blotches and spots of brown. Size—1.71 × 1.22.

The Canada Grouse, or Spruce Partridge as it is more commonly called, is an inhabitant of the dense forest region of the more northern parts of Maine and New York in the United States,

NEST AND EGGS OF RUFFED GROUSE

and in Canada as far north as the arctic timber line, where it lives a secluded life among the trees—spruce, larches, and fir trees being its favourites.

As a game bird it is fairly well known, though its extreme tameness renders it by no means an exciting quarry. So tame is it that in some places it has been caught by means of a noose attached to the end of a fishing-rod. During the breeding season this bird *drums*, after the manner of the ruffed grouse.

In Maine they breed in May. Incubation occupies 17 days.

300. Ruffed Grouse: Bonasa umbellus (Linn.)

Adult ♂—General colour yellowish brown or rusty; upper parts mottled with black and gray; under parts light buff to white or buffy white on the belly, with irregular dark mottled bars, which are more pronounced on the breast and at the sides; on either side of the neck are large tufts of black feathers, which may be distended at will.

Adult ♀—Somewhat lighter than the ♂, and with very small tufts on the neck. Length—17.00.

Breeding Range—Throughout the Eastern States, from the higher regions of Georgia northward.

The nest is on the ground, usually at the base of a tree, sometimes against a fallen log or under a bush. It is made of dead leaves with a few feathers, and is either very shallow or fully five inches deep inside. From 8 to 14 and rarely 16 eggs are laid; they are creamy white, often much stained, and sometimes speckled with brown. Size—1.56 × 1.13.

Under the different names of Ruffed Grouse, Pheasant, and Partridge this bird is well known to all sportsmen as perhaps the finest of our Eastern game birds. Its extraordinary habit of drumming has been the cause of many a surprise, and even of fright, to the novice, who, not knowing whence the sound proceeded, has attributed it to all sorts of wild and ferocious animals. That it is really made by a bird is hard to believe. The sound is made by the rapid striking of the wings either against the sides of the body or against the air (this is a much-disputed question) while the bird is standing on a fallen tree or a low bush; and though this is the mating call, it may be heard throughout the shooting season in Maine and probably elsewhere.

The nesting season in the neighbourhood of New York begins about April 25th. The period of incubation occupies about 18 days, the young leaving the nest as soon as hatched, and after a few days being able to fly.

When the old bird is driven from her nest she starts off with one or both wings, and perhaps a leg, apparently broken, and after scrambling on the ground for a few yards, she scales along until about a hundred feet away, and then takes flight. If she is found with her brood of chicks she acts in a most remarkable manner, either attacking the disturber or else feigning complete powerlessness, thus diverting attention long enough to enable the young to hide.

Near where I am now living (South Orange, N. J.) the woodsmen say that the partridge always build at the foot of a white oak. There seems to be some truth in the saying, so far as this immediate neighbourhood is concerned, as all the nests I have seen hereabouts were at the foot of white oaks.

300a. Canadian Ruffed Grouse: B. u. togata (Linn.)

This is a sub-species of the ruffed grouse. Its grayish instead of buffy or rusty colour on the back, and the bars being more distinct on the under parts, especially on the belly, are the chief points of variance.

Breeding Range—Northern New York, Maine, and Vermont, northwards.

These birds vary greatly in colour; in some instances they may be mistaken for the common ruffed grouse, as specimens showing all the intermediate gradations of colour have been taken.

306. Heath Hen: Tympanuchus cupido (Linn.)

These birds bear a close resemblance to the prairie hen, the principal difference being in the neck tufts, which are *pointed* instead of *rounded*. Length—18.00.

Breeding Range—Martha's Vineyard.

Nest on the ground; eggs brownish drab or buff. Size—1.73 × 1.29.

The Heath Hen is almost extinct, being restricted to the island of *Martha's Vineyard*, where they are "in imminent danger of total extinction."

310. Wild Turkey: Meleagris gallopavo Linn.

Differing in some degree from the darker varieties of the domestic turkey, the smaller wattles and the dark buff or chestnut tip to the tail coverts and tail are characteristic of the wild bird. The adult male is very much larger than the female, weighing usually about 25 pounds, and sometimes as much as 40 pounds, while the female weighs about 8 pounds. Length of adult ♂—48.00.

Breeding Range—Canada to Florida; extinct in New England.

The nest is built on the ground among briars and thick weedy places. 9 to 15 eggs are laid (some writers putting the number as high as 24). They are cream-coloured with fine brownish-red spots. Size—2.55 × 1.80.

Unfortunately, the Wild Turkey is becoming so scarce that in a few years' time it will be a rare bird. Laws made for its preservation were adopted too late, and in many places are utterly disregarded, which means that the birds will become restricted to inaccessible places, such as the large tracts of swampy woodland. It has never been my good fortune to find a wild turkey's nest, so I cannot give any original data in connection with their breeding habits. During the mating season each male fights for the possession of a drove of hens, varying in number from 4 to about 8 or even more ; at other times the two sexes flock together, though it is usual for the very old gobblers to remain solitary. Mr. Davis says that when the eggs are once touched the female will abandon her nest.

310b. Florida Wild Turkey: M. g. osceola Scott.

The Florida Wild Turkey varies but little from the more northern species, being somewhat smaller, darker in colour, and has irregular white markings on the wings in place of the wide white bars.

Breeding Range—Southern Florida.

The breeding habits are described as almost identical with those of the northern wild turkey.

These magnificent birds are still fairly common in parts of Florida, though much less so than they were a few years ago. When I was in southern Florida in 1892 I sometimes saw in one day as many as seven droves, numbering in all from twenty-five to forty birds. During the seventeen days I camped out I secured thirty-two specimens without very much trouble. This was just before the mating season. The droves contained from three to nine birds, and where both sexes were together the males were usually birds of the previous year. The older males were most often in flocks of about three, with no hens ; the very old gobblers were invariably solitary. The males ranged in weight from eight pounds (yearling birds) to twenty-three pounds. The hens weighed rather under seven and a half pounds.

316. Mourning Dove: Zenaidura macroura (Linn.)

Eggs white.

See Page 133, Chapter VIII.

317. Zenaida Dove: Zenaida zenaida (Bonap.)

Eggs white.

See Page 133, Chapter VIII.

320. Ground Dove; Mourning Dove: Columbigallina passerina terrestris Chapm.

Adult ♂—Various shades of "dove colour" ; breast somewhat spotted ; iridescent feathers forward of the shoulder ; bill red.

Adult ♀—Grayer. Length—6.75.

Breeding Range—The Gulf States and Florida, north to North Carolina.

The nest is a flimsy structure of twigs, with sometimes straw or pine needles. It is placed either on the ground or in bushes, rarely at any height from the ground. 2 white eggs are laid. Size—.85 × .65.

The Ground Dove is easily recognised from its size alone, it

being much the smallest of our native doves. As its name implies, it spends the greater part of its time on the ground, where it may be seen moving its head, while walking or running, after the habit of the domestic pigeon.

The nests are usually near cultivated land, frequently in abandoned gardens or yards, and though the ground is perhaps the favourite place for building, yet bushes, trees, or even tree stumps are sometimes chosen. The breeding season lasts from April to July ; eggs have been taken as late as October, but this is probably quite exceptional.

322. Quail Dove: Geotrygon martinica (Linn).

Eggs white or buffy white.

See Page 133, Chapter VIII.

325. Turkey Vulture; Turkey Buzzard: Cathartes aura (Linn.)

Adult—Black tinged with brown ; head and neck red, bare of feathers. Length—About 30.00.

Breeding Range—From New Jersey southward; accidental in New England.

The eggs are laid inside a hollow log or stump, or on the ground, often beneath palmetto or small bushes in fairly open places, or among rocks; the eggs are yellowish or grayish white, splashed with chocolate and black, chiefly at the larger end ; the number varies from 1 to 4. Size—2.75 × 1.90. See Fig. 1, Plate A.

These birds, so graceful in flight yet so awkward when on the ground, are perhaps the most useful of the southern birds ; as they, with their near relatives, the black vultures, are the scavengers that leave no track or trace of anything that might pollute the air. The question, on which so much has been written and which has, I believe, never been satisfactorily decided, is whether it is by the sense of smell or sight that these birds discover the whereabouts of food; that their sight is wonderful must be admitted, while their power of smelling does not appear to be at all remarkable. It is scarcely possible that a bird flying at a height that renders him scarcely visible to the naked eye, and which

must be at least several thousand feet, should be able to get the scent of anything on the earth while the wind is blowing at the rate of fifteen or twenty miles an hour ; yet when I have skinned a small animal and thrown down the body, the birds, that were seen to be flying at an immense height, immediately descended and attacked the carcass. Another time, in order to test their olfactory nerves, I took an alligator that had been dead several days, and at night cut it in half ; the one-half was hidden by a piece of sacking. These two pieces were placed about thirty feet apart, and in the morning both black vultures and turkey vultures were there in numbers. After finishing the exposed half, they jumped about after their usual fashion and actually stood upon the covered portion, but its presence was not discovered by them. Surely, if they had such a highly developed sense of smell, they would not have acted in this way.

The young are covered with white down for some time after being hatched, and if handled have the disagreeable habit of disgorging offensive matter ; so it is advisable to leave them alone. The breeding season begins in April.

326. Black Vulture: Catharista atrata (Bartr.)

Adult—Black ; the head and neck black, and bare of feathers.
Breeding Range—North Carolina and the lower Mississippi Valley, southward.

The nest, of which there is but a trace, is placed on the ground beneath scrubby growth, in hollow prostrate logs, on stumps, or among rocks. 2 or 3, usually 2 eggs, are laid ; they vary greatly in colour; the average is dull white or pale blue, rather heavily spotted and blotched with dark brown and chocolate of various shades. Size—3.00 × 2.00.

The Black Vulture resembles in general characteristics its near relation the turkey buzzard, but it is not as common inland. The nesting habits of both species are very similar. These birds usually make a path to their nests, along which they jump in an awkward manner. The male assists in the tedious duty of incubating, which occupies about twenty-eight or thirty days.

The breeding season commences about the end of February or the beginning of March.

416. Chuck-will's-widow: Antrostomus carolinensis (Gmel.)

Breeding Range—From Virginia southward; most common in Florida.

This is a variety of the whip-poor-will breeding in the warmer parts of the country. In general appearance it is much the same, being somewhat larger, lighter in colour, and having hair-like branches to the bristles at the base of the bill. Length —12.00.

The eggs, two in number, are placed on the bare ground or on leaves in thickets or woods. They are white or buff, marbled with pale brown and lilac blotches and spots. Size—1.40 × 1.00. See Fig. 5, Plate A.

One of the most peculiar things about this bird is its habit of carrying its eggs, or young, from place to place, inside its enormous mouth. In its habits it resembles the more northern species; the notes are slightly different, having one more syllable. The nesting season begins about the first week in April.

417. Whip-poor-will: Antrostomus vociferus (Wils.)

Adult ♂—The general colour is a mixture of rich browns, buff, gray, and black, with a white or whitish band below the throat, and white ends to the three outer tail feathers; mouth very large, with bristles at base of bill. The middle toe is toothed on the inner side.

Adult ♀—Has the white replaced by cream colour. Length—9.75.

Breeding Range—Throughout the northeastern States.

The eggs are laid on the ground, generally among dry leaves, with no pretence of a nest. The ground colour is creamy white or grayish, with dark or very faint lilac and brown markings and spots; only two eggs are laid. Size—1.18 × .84.

There are few common eggs more difficult to find than those of the Whip-poor-will. The bird matches to perfection, both in colour and marking, the surroundings chosen for the nesting, or I should perhaps say the ground on which the eggs are deposited, there being no nest. The eggs also are decidedly incon-

spicuous. The place generally chosen is in the dark woods, where the ground is thickly strewn with dead leaves. The birds look like large bats or moths as they glide away in noiseless flight among the trees, to perch lengthways on a horizontal branch, becoming, to all appearance, part of the bark. In order to find the eggs, it is advisable to use a dog ; otherwise it is a most discouraging task. As the birds remove the eggs if they have been handled, it is as well to secure them at the time of finding, as otherwise they may have disappeared when the place is revisited. The young are said to "run about much like young partridge."

In New Jersey the eggs are deposited about June 1st.

558. White-throated Sparrow: Zonotrichia albicollis (Gmel.)

Adult—Upper parts reddish brown streaked with black ; head black on either side of crown, white between and below the streaks ; throat white ; yellow between bill and eye, and at bend of wing ; under parts gray.

Immature—Breast darker, almost spotted ; throat whitish, with two undefined lines ; the white on the head replaced by a grayish colour. Length—6.74.

Breeding Range—From northern Michigan and northern New York and northern New England, northward.

The nest is usually placed on the ground in woodland, or sometimes in open pasture land, and occasionally built in a bush or among the branches of a fallen tree. It is made of grasses, weeds, fine roots, and moss, with a lining of fine grass. 4 or 5 eggs are laid ; they have the ground colour varying from white to bluish, or sometimes yellowish white, with fine marks and heavy blotches of different shades of brown. Size—.79 × .61 to .89 × .64. See Fig. 7, Plate B.

Next to the white-crowned sparrow, the Peabody-bird or White-throated Sparrow is the handsomest of the sparrows that visit our Eastern States, but he is known to most of us only as an autumn and spring visitor—ever welcome with his plaintive little song.

In New England the breeding season commences about June 1st.

567. Snowbird; Junco: Junco hyemalis (Linn.)

Adult ♂—Dark slate colour with slight brownish tinge, except the lower part of breast and belly, which, together with the outer tail feathers, is white.

Adult ♀—Is less decided and lighter in colour. Length—6.27. "Young in first plumage resemble the adults, but have the upper parts, throat, and breast streaked with black." (Chapman.)

Breeding Range—The more northern parts of New England, New York, and Pennsylvania, southward along the Alleghanies to Virginia.

The nest may be found among the roots of a fallen tree, in crevices of banks, or in bushes, but usually it is on the ground in a tangle of undergrowth. It is built of dry grass and moss, well lined with fine grass and hair. The eggs are greenish or bluish white with fine spots and sometimes blotches of reddish purple-brown and lilac, chiefly in a wreath round the larger end. Size —.76 × .56. See Fig. 14, Plate C.

Most of us have met this quiet-coloured bird, but only when nearly all of our summer birds have gone to warmer climes; he then frequents the vicinity of dwellings, spending most of his time either on the roadside or in places where he can find the seeds that form his winter food. During the breeding season few of us are fortunate enough to see him, as he betakes himself to higher altitudes or to the more northern parts of New England. In Ontario the Snowbird is said to begin nesting "the first week of May, and nests with eggs are found as late as August." Minot says that in the White Mountains they lay their eggs in June.

567e. Carolina Snowbird or Junco: J. h. carolinensis Brewst.

Resembles the common snowbird, but is slightly larger and is without the brownish tinge to the slate colour of the head, breast, and back.

Breeding Range—The southern part of the Alleghanies, in Virginia and the Carolinas.

The nest is described as being similar to that of the common

snowbird, but larger, and built of coarser materials ; the eggs are similar but larger.

The habits during the breeding season do not differ materially from those of the preceding species ; the nests being found in bushes, trees, on the ground in open fields, in thickets, and in banks. Two sets of eggs are laid, the first being laid in May.

575. Pine-woods Sparrow: Peucæa æstivalis (Licht.)

Adult—Resembling somewhat the field sparrow in shape, having the tail rather long ; upper parts warm brown or chestnut streaked with black, the individual feathers being edged with gray ; breast ash-coloured, occasionally spotted with black ; belly white or whitish ; bend of wing yellow ; the outer tail feathers are very short. Length—5.80.

Breeding Range—Throughout the piney woods of southern Georgia and Florida.

The nest is placed on the ground in the pine woods, amongst the scrub or saw palmetto; it is a compact structure of fine grasses. 3 to 4 white eggs are laid in May or June. Size—.72 × .61.

As far as I know, not a great deal of data has been collected in connection with the breeding habits of this little sparrow. Its nest is difficult to find, owing to the vastness of the area of suitable country and to the fact that it is carefully hidden among the palmetto, which in itself forms an adequate protection. Mr. Chapman considers the song of this bird superior to that of any of our northern sparrows.

581. Song Sparrow: Melospiza fasciata (Gmel.)

Eggs white tinged with green or blue, with irregular brownish blotches.

See Page 49, Chapter I.

583. Lincoln's Sparrow: Melospiza lincolnii (Aud.)

Adult—Upper parts grayish brown streaked with black and darker brown ; the tail has short outer feathers ; under parts gray and cream colour slightly streaked with black, and a buff band on breast, which should serve to distinguish

it from other sparrows of somewhat similar appearance. Length—5.75.

Breeding Range—Not very far south of the northern border of the United States, and in the high mountain regions further south.

These nests, which are not very often seen, are placed on the ground, much after the manner of the song sparrow's; they are "composed entirely of grasses." The eggs, 3 to 5 in number, are greenish white or brownish white, spotted and blotched with lavender and chestnut or brown, more thickly so at the larger end. Size—.80 × .59.

The habit of skulking through the grass or bushes, so marked in this sparrow, renders him inconspicuous, and consequently he is often thought to be much less common than he really is. In Colorado eggs have been taken in June and July.

584. Swamp Sparrow: Melospiza georgiana (Lath.)

Adult—Upper parts deep chestnut or warm brown with dark streaks; lower parts ashy gray; throat white or whitish gray. Length—5.89.

Breeding Range—The northern United States, northward.

The nest is placed in a tussock of grass, usually in a swamp, marshy thicket, or damp meadow, rarely in a low bush; it is made of grasses, lined with fine grass and sometimes horse-hair. 4 or 5 eggs are laid; they resemble the eggs of the song sparrow, but are more broadly and less distinctly blotched; they vary greatly in their markings, which are chocolate or reddish brown, the ground colour being white slightly tinged with green, yellow, or pinkish brown. Size—.80 × .60. See Fig. 15, Plate C.

The Swamp Sparrow is very frequently confused with its near relation, the song sparrow; the duller and more uniform colour of the back, the absence of dark streaks on the under parts, and the patch on the breast should serve to distinguish it. The fact that it flies without jerking its tail is also worth remembering. By any one who has sufficient perseverance the nest may be found from about the middle of May; it is carefully hidden in the rank swamp growth. Two sets of eggs are laid.

587. Towhee; Chewink: Pipilo erythrophthalmus (Linn.)

Adult ♂—Head, throat, breast, and back black; tail black with white tips to the three outer feathers; side bright chestnut; belly white; the eye has the iris red.

Adult ♀—The parts that in the male are black are replaced by brown. Length—8.35. "Young in first plumage have the back and under parts streaked with black." (Chapman.)

Breeding Range—Georgia, northward to Canada, westward as far as eastern Dakota.

The nest is rather large and roughly made of dead leaves, fine roots, grass, twigs, grape-vine bark and tendrils, and lined with fine grass and roots. It is placed on the ground or in exceptional cases in bushes. Damp or dry woods, sunny slopes, thickets, or thick grassy clearings may be chosen for the nesting place. 4 and sometimes 5 eggs are laid; they are white, or white tinged with pink or blue, speckled and rarely blotched with brown, chestnut, and lilac, chiefly at the larger end. Size—.95 × .72. See Fig. 8, Plate C.

These birds, so spick and span in their fine plumage, are conspicuous only by their peculiar note, which sounds something like the word "chewink," pronounced with a rising inflection. They may be seen in the thickets or scrubby woods or in brush heaps, ever alert and on the move, jumping from twig to twig, or scratching vigorously among the dead leaves, creating as much bustle and disturbance as would a barn-yard hen. Their nest is so arranged that it is exceedingly difficult to find, the materials used in its construction corresponding both in colour and texture with the immediate surroundings. When near their home the birds are silent, unless you happen to find and disturb the nest, when both male and female join together in making the most piteous cries. The eggs are laid about the second week in May; probably but one brood is reared. Chewinks are also known as Ground Robins and Jorees.

587a. White-eyed Chewink: P. e. alleni Coues

Breeding Range—Florida and southeastern part of South Carolina.

The White-eyed Towhee differs from the northern bird in being somewhat smaller, in having only two instead of three of

A MOTHER WORM-EATING WARBLER AND HER YOUNG FAMILY

A YOUNG TOWHEE HIDING BENEATH A DEAD OAK LEAF

NEST OF THE WORM-EATING WARBLER IN A BANK

the tail feathers tipped with white, and in having, as, the name indicates, the iris of the eye nearly white. Length—8.00.

In most respects the habits of these two birds are very similar ; the nest of the white-eyed is perhaps more frequently built in bushes, and pine needles, in addition to the other materials, are used in its construction. The eggs are bluish white, unmarked, or "thickly speckled with pinkish-vinaceous and pearl gray" (Davie).

636. Black and White Warbler or Creeper: Mniotilta varia (Linn.)

Adult ♂—Streaked all over with black and white, except middle of belly, which is white.

Adult ♀—Very similar, but with almost imperceptible brownish tinge. Length—5.30.

Breeding Range—Eastern States, from Virginia and Kansas northward.

The nests are built on the ground except in very rare instances, when they are placed in holes in trees (Minot). The material used consists of leaves, grass, fine roots, and thin strips of bark, with the lining of hairs. The eggs, 3 to 5 in number, are white, spotted with brown and purple, most of the spots forming a wreath around the larger end. Size—.65×.55. See Fig. 17, Plate C.

It is impossible to confound these warblers with any other of their family; the colour alone is quite distinctive, as also is their method of creeping along the tree trunks or branches. This is done by no other warbler, except to a very limited extent by the worm-eating. The nuthatches and brown creeper also "creep," but with these there is no chance of confusion. The nests are carefully concealed, generally at the foot of a tree, under a log or projecting stone, in thickly wooded places. The eggs are laid about the third week in May.

639. Worm-eating Warbler: Helmintherus vermivorus (Gmel.)

Adult—Buff line through centre of crown and above the eye, black lines on either side of crown and back of eye ; upper parts greenish buff ; under parts buff. Length—5.51.

Breeding Range—Eastern States, from southern New England southward.

The nest is composed of leaves, weed stems, strips of bark, lined with fine roots and occasionally hair ; it is placed on the ground at the foot of a tree, under a log or in a slight depression or hole in a bank. Usually it is in hilly woodland, but sometimes a more open place is chosen. The eggs, 3 to 5 in number, are white or pinkish white, with fine spots of cinnamon and purplish brown, chiefly at the larger end. Size—.72 × .58.

Should you happen to venture at all near to the nest of the Worm-eating Warbler, she will tell you of its proximity by falling on the ground with seemingly broken wings, and apparently on the verge of death from some unknown cause ; she will even roll over and over down the side of a hill while in this condition, in the hope of luring you away from her home, which is usually concealed with the utmost care. When on the nest the parent bird will almost allow herself to be caught, so close does she sit. As a rule, these warblers live and feed on or very near the ground, most frequently in damp woods or thickets, but I have seen them creeping along the overhanging branches somewhat after the manner of the black-and-white creeper. I do not, however, think this is a common habit, as I have seldom seen it done. The nesting season commences towards the end of May in the vicinity of New York.

641. Blue-Winged Warbler: Helminthophila pinus (Linn.)

Adult ♂—Upper parts light olive green ; wings and tail bluish ; wing shows two broken white bars ; crown and under parts brilliant yellow. The black line in front and back of the eye is a distinctive feature.

Adult ♀—Under parts somewhat less bright. Length—4.80. The young in first plumage are nearly as bright as the adult ♀.

Breeding Range—Eastern States, from Connecticut and southern New York southward.

The nest is placed on the ground in clearings, scrubby places, and in the undergrowth of woodland or second growth. It varies greatly, being sometimes a very rough structure of

NEST OF BLUE-WINGED WARBLER ON GROUND IN DAMP SCRUB

BLUE-WINGED WARBLER ON NEST

THE SAME NEST SHOWING YOUNG BIRD JUST OUT OF THE EGG

coarse grass, weeds, leaves, bark, and tendrils, and sometimes a compact and well-made nest of the same materials. to 6 eggs are laid ; they are white, with very few spots of brownish red, except round the larger end, where they are more numerous. Size—.62 × .51.

Although in some places this warbler is very common, the nest is always hard to find. I have seen as many as twenty pairs of these birds in a day during the breeding season, and yet not one nest could I find. When the young are hatched it is, of course, much more easy to find the nest, as the female may then be seen carrying food to them. As far as I have been able to ascertain by observation, the female alone supplies the young with food, the male usually accompanying her until within a short distance of the nest, or even to the nest itself, but I have never seen him carry food. When these birds are seen to be very much excited there is every reason for believing that the young, which in all probability have very recently left the nest, are not far away ; they may easily be found, as the parent birds (both male and female take part in feeding the young after they have left the nest) feed them constantly. Near New York nesting begins about the third week in May.

642. Golden-winged Warbler: Helminthophila chrysoptera (Linn.)

Adult ♂—Head : Crown bright yellow ; a white line over the eye, then comes a broad black line, level with and below the eye, then a wide white line on either side of the throat, which is black ; upper parts grayish ; wings bluish gray, with yellow patch ; breast and belly white, shading into gray at the sides.

Adult ♀—Duller in colour, dark gray taking the place of the black. Length—5.10.

Breeding Range—"Georgia, North and South Carolina" in the more elevated parts, northward to the more southern parts of New England, also in "Minnesota, Wisconsin, and Michigan, and is a rather common summer resident of Ohio."

The nest may be found either on the ground or in low bushes, usually the former ; it is built of grass, strips of bark, fine roots, and leaves—the leaves being generally outside and underneath ; lining of fine grass. The eggs, 4 to 6 in number, are

white with brownish and lilac spots, mostly at the larger end, where they form an irregular wreath. Size—.62 × .48.

Golden-winged Warblers generally choose rather damp places for their nests, something after the manner of the Maryland yellow-throats or blue-winged warblers ; second-growth clearings and such like scrubby places suit their fancy.

Intergradations between the golden-winged warbler and blue-winged warbler are considered hybrids, and are known as Brewster's warbler (*Helminthophila leucobronchialis* [Brewst.]) and Lawrence's warbler (*Helminthophila lawrencei* [Herrick]).

645. Nashville Warbler: Helminthophila ruficapilla (Wils.)

Adult—Head bluish gray with chestnut patch on crown ; rest of upper parts light olive green ; under parts light yellow ; no white on any part. Length—4.77.

Breeding Range—Throughout the Northern States, from northern Illinois to Long Island, northward.

The nest is composed of leaves, strips of bark, moss, fine roots, lined with fine grass and often hair ; sometimes pine needles are used almost exclusively. It is placed on the ground in open woods, in second-growth woods, and in shrubbery. The eggs are white, thinly or thickly speckled, mostly at the larger end, rarely blotched, with cinnamon brown and lilac. 3 to 5 are laid. Size—.63 × .48.

In Massachusetts the nesting season begins "about the first of June."

675. Water-thrush: Seiurus noveboracensis (Gmel.)

Eggs white with rather large spots or markings of cinnamon brown or hazel, more thickly distributed about the larger end.

See Page 91, Chapter V.

675a. Grinnell's Water-thrush: S. n. notabilis (Ridgw.)

Eggs identical with those of the water-thrush.

See Page 91, Chapter V.

NEST OF MARYLAND YELLOW-THROAT.

In Raspberry patch

676. Louisiana Water-thrush: Seiurus motacilla (Vieill.)

Eggs creamy white with numerous spots and specks of chestnut and lilac.

See page 92, Chapter V.

677. Kentucky Warbler: Geothlypis formosa (Wils.)

Adult ♂—Upper parts light olive green, except the crown, which is black; from the bill, over and back of the eye, is a thin, yellow line; below it there is a black patch, which narrows below the cheek, then again becoming slightly wider; under parts bright yellow.

Adult ♀—Colours rather less brilliant. Length—5.40.

Breeding Range—Throughout the Eastern States, from the Gulf of Mexico to Illinois and Connecticut.

The nest is placed on the ground or among the roots of a fallen tree, usually in woods that are more or less damp; it is a large structure of leaves (mostly on the outside), grasses, and fine roots, lined with fine roots and sometimes hair. The eggs, numbering from 4 to 5, "rarely 6," are white, spotted or blotched, more so at the larger end, with varying shades of brown and gray. Size—.73 × .57.

This bird may be easily mistaken by the novice for the Maryland yellow-throat, being about the same size and colour; the black crown and the light yellow line over the eye, together with the fact that it *walks*, should serve to identify it. Near New York the eggs are laid about the end of May, in Kansas about ten days earlier.

679. Mourning Warbler: Geothlypis philadelphia (Wils.)

Eggs white, with reddish-brown spots at the larger end.

See Page 164, Chapter VIII.

681. Maryland Yellow-throat: Geothlypis trichas (Linn.)

Adult ♂—Upper parts brownish olive green; forehead, cheeks, and side of throat black, with a light grayish edge back of it; breast, throat, and sides bright yellow; belly grayish white.

Adult ♀—Plumage duller and without the black patch; the sides yellowish brown, shading into grayish white on the belly. Length—5.33.

Breeding Range—Throughout the Eastern States, from Georgia northward; westward to the plains.

The nests are usually placed on the ground; they are also built in low bushes, in almost any kind of place; they vary greatly both in size, shape, and in the materials used in their construction; they may be made of nothing but fine grass, very shallow, resembling the nest of the field sparrow, or they may be very bulky, being as much as six inches high, outside measurement, and made of weeds, strips of bark, tendrils, grass, and leaves, the leaves only on the outside, with the lining of fine grass and hair. Some of the nests are made entirely of reeds and other coarse grass. The eggs are white with fine specks or spots of chocolate and purple, brown and lilac; the spots are not very numerous, and are mostly at the larger end. Usually the number of eggs is 4, sometimes 5 and rarely 6. Size—.70 × .53. See Fig. 16, Plate C.

The Maryland Yellow-throat is perhaps the most common of our warblers during the breeding season; he may be found in almost any thicket, but he undoubtedly prefers places that are damp or even marshy. Wherever he is, he will be found very much in evidence, being of an inquisitive nature and ever on the move, hopping about among the grass or, more often, in a tangle of low bushes.

The nest is described as difficult to find. Why, I do not quite understand; it seems much more easy to find than most of the other ground nests, unless it happens to be arched over, but that is rare. I have found the nests in raspberry vines, as shown in the accompanying illustration, but they are more often found in damp, grassy tangles. The young leave the nest when about five days old.

681b. Florida Yellow-throat: G. t. ignota Chapm.

This bird is very similar to the preceding. The bill, tail, and wing are longer, upper parts much browner, the black patch larger, and the yellow rather deeper in colour on the under parts. It is resident in the southern parts of Georgia and in

NEST AND EGGS OF MARYLAND YELLOW-THROAT

Florida. Nesting habits are described as being identical with those of the more northern bird. It is also known as the Palmetto Bird.

686. Canadian Warbler: Sylvania canadensis (Linn.)

Eggs creamy white, spotted chiefly at the larger end with reddish brown and lilac.

See Page 92, Chapter V.

705. Brown Thrasher: Harporhynchus rufus (Linn.)

Eggs whitish, bluish, or greenish, with numerous fine light reddish-brown specks evenly distributed.

See Page 50, Chapter I.

756. Wilson's Thrush; Veery: Turdus fuscescens Steph.

Adult—Upper parts reddish or golden brown; under parts white or grayish white, except the breast, which is tinged with buff and spotted with brown. Length—7.52.

Breeding Range—"From northern Illinois and Pennsylvania to Manitoba and Newfoundland, and southward along the Alleghanies to North Carolina." (Chapman.)

The nest is most commonly placed on the ground, or among the roots of a fallen tree, rarely in bushes, and they "have been found in hollow trunks of trees fifteen feet from ground" (Davie). It is generally a well-made structure about three inches in diameter by two and a half deep inside, and as much as five or six inches deep outside. The materials used in its construction are principally leaves and skeleton leaves, also weeds, fern stalks, reeds, and fine roots, the inside being lined with leaves and fine black roots. 3 to 5 eggs are laid, 3 being perhaps the most common number. They are pale greenish blue, somewhat darker than a robin's eggs. Size—.87 ×.64. See Fig. 11, Plate C.

The Wilson's Thrush confines himself chiefly to the low, damp woods, where, in some places, they are very abundant. Their choice of residence, however, renders them almost unknown, except to people who are directly interested in birds. In appearance they may be said to resemble a very dull-coloured

wood thrush without the bright rufous tail, and the markings on the breast are not nearly so conspicuous. Their note is very peculiar, sounding almost like the sharpening of a scythe with a whetstone. It is a sound that cannot be confounded with any other bird's note. The place chosen for nesting is on the ground in the damp woods, not far from water as a rule. The nest is very often built at the foot of a sapling, or between the stems of a bush, or on a mound of moss and grass, and not infrequently in dry clearings with shrubby undergrowth. I have never found a nest in a bush, but I am told that such places are sometimes, though rarely, chosen. From my experience with these denizens of the dark, wet woods I should be inclined to believe they have but scanty confidence in man. I have tried repeatedly, and in vain, to secure a photograph of the sitting bird. The eggs are laid about the third week in May.

759b. Hermit Thrush: Turdus aonalaschkæ pallasii (Cab.)

Adult—Upper parts dusky olive brown; tail bright rufous; under parts white or whitish, tinged on the breast with buff, and marked with large dark spots. Length—7.17.

Breeding Range—From Michigan and northern New England (including northwestern Connecticut), the higher regions of New York, northward.

The nest is always on the ground, generally in damp, woody places or on shrubby slopes. It resembles the nest of the Wilson's thrush, but is rather larger, and pine needles and moss, as well as leaves, roots, weeds, etc., are used in its construction. 3 or 4 eggs are laid; they are plain bluish green; in very rare cases they are said to be spotted. Size—.88 × .69.

These birds well deserve the name given them, for their usually solitary habits are truly hermit-like. In the deep, dark forests, where all is hushed and quiet, the sweet sympathetic notes of this famous songster may be heard; few other birds are there to join with him in his song to the woods.

The Hermit Thrush need never be mistaken for any other of the thrush family; his rufous tail and brownish back are entirely distinctive. In northern New England the nesting season commences towards the end of May.

NEST OF WILSON'S THRUSH.

Placed on a mound of moss-covered earth.

Chapter III

COVERED OR ARCHED NESTS ON GROUND

Part I.—IN OPEN COUNTRY

289. Bob-white; Quail: Colinus virginianus (Linn.)

Eggs white; nest rarely and but roughly arched.

See Page 35, Chapter I.

501. Meadowlark: Sturnella magna (Linn.)

Adult—Summer plumage: Back and head warm lightish brown, marked with black and brown; yellow line from the bill over the eye, dark brown line from eye to back of neck; throat and breast bright yellow, with black crescent on breast beginning above bend of wing; tail—outside feathers white or partly white, middle feathers light brown with dark transverse markings. The winter plumage is much less brilliant. Length—10.75.

Breeding Range—Throughout the Eastern States.

The nest is built on the ground in open fields, generally where there is high grass or young grain. It is formed of grass and is frequently arched or partly so.

The eggs, varying from 4 to 6 in number, are white, speckled chiefly at the larger end with reddish brown and lilac. Size—1.10×.80. See Fig. 7, Plate C.

The Meadowlark's nest is not easy to find, even where the birds are plentiful, and unless the old bird is seen to rise from it, and the place is then very carefully marked, many weary miles may be walked through grassy fields without a nest being discovered. Built entirely of grass, and placed in a tuft of tall grass or grain, it is difficult to see even when the nest is an open one,

but when arched or covered, and with a winding hidden passage leading to the opening, which is on the side, it is decidedly inconspicuous.

In the neighbourhood of New York the breeding season begins early in May.

546. Yellow-winged or Grasshopper Sparrow: Ammodramus savannarum passerinus (Wils.)

Eggs white or whitish, finely spotted with reddish brown.

See Page 44, Chapter I.

550. Sea-side Sparrow: Ammodramus maritimus (Wils.)

Eggs white or whitish, finely speckled with light reddish brown and lilac.

See Page 46, Chapter I.

575. Pine-woods Sparrow: Peucæa æstivalis (Licht.)

Eggs pure white.

See Page 62, Chapter II.

Part II.—ARCHED NESTS IN WOODS OR THICKETS

575a. Bachman's Sparrow: Peucæa æstivalis bachmani (Aud.)

Adult—Upper parts rufous with dark streaks; lower parts light brownish buff; warm gray or buff line over eye; yellow at bend of wing; the tail has the outer feathers the shortest. Length—5.75.

Breeding Range—The Southern States, from Kentucky and North Carolina, and southern Illinois, southward.

The nests in all probability are invariably arched or roofed, with the opening well hidden on the side; grass alone is used in their construction, with the grass tops for lining. The eggs are white, 3 to 4 in number. Size—.75 × .60.

This sparrow resembles closely the pine-woods sparrow, but it has no spots on the under parts, and few, sometimes none at all, on the back. Its habits are terrestrial.

THE MEADOWLARK'S DOME-SHAPED NEST

NEST AND EGGS OF THE YELLOW-WINGED OR GRASSHOPPER SPARROW

The places chosen for nesting are the pine or oak woods, or scrubby open ground, seldom far from trees. The nests are very difficult to find, owing not only to the fact that they are carefully covered, but the bird, instead of flying up directly from the nest, runs along the ground for some distance before taking flight. From April to July nests may be found.

674. Golden-crowned Thrush; Oven-bird: Seiurus aurocapillus (Linn.)

Adult—Upper parts brownish olive; crown dull orange with dark line on either side; under parts white, slightly tinged with yellow, with numerous dark spots forming lines from the throat downwards. Length—6.17.

Breeding Range—From Virginia and Kentucky northward, and in the higher regions of the Carolinas.

The arched or domed nest is formed of dead leaves, skeleton leaves, and roots, with the lining mostly of fine hair-like roots, and sometimes hair; the opening is at the side, and is fairly large, about three inches high; the nest is placed among dead leaves, either on a bank or on the level ground in dry woods. The eggs vary in number from 3 to 6, sets of 5 being the most common; they are pinkish white, with either few or many fine specks of light chocolate colour or sometimes blotches of reddish or lilac, chiefly at the larger end. Size—.78 × .58. See Fig. 12, Plate C.

This thrush-like warbler may be found throughout our woods—perhaps the most common of the woodland birds, and certainly the one most frequently seen during the earlier part of the breeding season; he is easily identified by his size, being *much* smaller than any of the thrushes except Bicknell's thrush (which is but little larger); by the dull orange crown, the feathers on the head being elevated when the bird becomes excited, and by the fact that he *walks*.

When the nest is threatened these birds become greatly excited, coming close to the intruder, and then feigning broken wings and general demoralisation, uttering all the time a rather sharp and piteous note; the nest is carefully hidden amongst the dead leaves and young spring growth, and is somewhat difficult to find. It is often completed several days before the eggs are laid.

The young remain with and are fed by their parents until fully grown. The old birds show clearly the whereabouts of the young by their excitement when one comes even within a hundred yards of them.

In the vicinity of New York the nests are finished by May 14th; probably two and perhaps three broods are reared, as I have seen the young being fed as late as the end of August.

In Massachusetts the season is about ten days later.

681. Maryland Yellow-throat: Geothlypus trichas (Linn.)

Eggs white, with fine specks or spots of chocolate and purple brown, the spots not being very numerous and mostly at the larger end. Nests rarely and then only partly arched.

See Page 69, Chapter II.

FRONT VIEW OF THE OVEN-BIRD'S NEST

BACK VIEW OF THE SAME NEST

ARCHED OR DOMED NEST OF OVEN-BIRD ON THE GROUND IN WOODS

Chapter IV

PART I.—OPEN NESTS IN MARSHES, REEDS, SAW-GRASS, AND LOW BUSHES IN OPEN COUNTRY

330. Everglade Kite; Snail Hawk: Rostrhamus sociabilis (Vieill.)

Adult ♂—Dark slate colour; upper tail coverts and beneath the tail white; tail tipped with white.

Adult ♀ *and immature*—Dark brown, feathers tipped with rusty colour, under parts somewhat mottled. Length—18.00.

Breeding Range—Southward from middle Florida.

Nest of coarse grass or saw-grass, either in tall rank grass or in low bushes among the saw-grass; "they measure about a foot in diameter, with a cavity three inches deep" (Davie). 2 to 3 eggs are laid; they are dusky white or brownish, with blotches and spots of dark reddish brown. Size—1.85 × 1.47.

The name Snail Hawk is well applied to these birds, as their food consists largely of a kind of snail that is to be found in shallow water.

The breeding season in Florida begins in March.

498. Red-winged Blackbird: Agelaius phœniceus (Linn.)

Adult ♂—Black except the shoulders, which are bright scarlet edged with light buff.

Immature ♂—Somewhat rusty coloured, with the scarlet of the shoulders replaced by dull orange and black.

Adult ♀—Upper parts dull buff and black streaked; under parts streaked blackish and white, the throat tinged with dull orange buff, and shoulders sometimes tinged with pinkish red. Length (♂)—9.51.

Breeding Range—Throughout the Eastern States, from Florida northward.

The nest varies greatly both in its construction and situation; usually of weeds and coarse grasses, lined with hair, placed in a large tussock of grass, cat-tails, or reeds; very often in alders and sometimes in wild rose or other bushes, generally within four or five feet of the ground though occasionally it is placed at a much greater height.

Most nests are about three inches deep inside, but some that are built like the orchard oriole's are much deeper.

The eggs, 3 to 5 in number, are very pale greenish blue or pearly white, with either blotches or scrawls of dark purplish brown, faint cloudy blotches of dull purple brown, and spots of black. Some few eggs have no distinct markings, only faint cloudy blotches of purplish brown. Size—1.00 × .75. See Fig. 6, Plate C.

These common but strikingly coloured birds may be found during the breeding season in almost any swampy place where there is a river or pond nearby. In the neighbourhood of New York they begin nesting about the first week in May, and lay two sets of eggs, the second set being laid towards the end of June. I have found these nests in a wild rose bush, hung over and within twenty-one inches of the water, resembling in construction the nest of the orchard oriole, but much more roughly made.

498b. Florida Redwing: A. p. bryanti Ridgw.

A small sub-species of the Red-winged Blackbird found in Florida.

The breeding habits and eggs of this bird are described as identical with those of the more northern variety.

584. Swamp Sparrow: Melospiza georgiana (Lath.)

Eggs white or whitish, broadly blotched with reddish brown or chocolate.

See Page 63, Chapter II.

NEST OF RED WINGED BLACKBIRD.

Part II.—GLOBULAR NESTS IN MARSH-GRASS, REEDS, ETC.

724. Short-billed Marsh Wren: Cistothorus stellaris (Licht.)

Adult—Black and brown streaked with buff and white ; under parts white or whitish tinged with buff. Length—4.00.

Breeding Range—The Eastern States from New Hampshire and Manitoba southward.

The nest, which is globular or spherical, with the entrance on the side, is made of coarse grasses or thin reeds, with the lining of plant down; it is attached to upright reeds in marshes. 5 to 7 eggs are laid ; they are usually pure white, but are sometimes marked faintly with rather large spots of pale lavender. Size—.64 × .45.

This energetic little wren, which builds such a remarkable nest, is found more often in the damp meadows than in the regular swamps where his cousin, the long-billed marsh wren, lives. The habit of building more nests than are ever used for laying eggs in, is one of the peculiarities of the marsh wrens. Where one nest is found there are sure to be others not far away, some finished and some scarcely more than begun. Whether these are for roosting in, or simply experiments, or as a method of protection, it is difficult to say. Two sets of eggs are usually laid ; the first about the end of May, and the second in July.

725. Long-billed Marsh Wren; Cistothorus palustris (Wils.)

Adult—Upper parts very dark brown or nearly black, the rump being a reddish brown or chestnut ; white line from the bill over the eye, and white streaks on the back ; under parts dusky gray or whitish. The young birds have the breast light yellow. Length—5.20.

Breeding Range—Throughout the Eastern States northward to Massachusetts.

The nest is built of reeds, grasses, weeds, and sometimes mud, with the lining either of grass or plant down, the seed from the

cat-tails being frequently used. It is globular, often rather long and narrow, with very irregular outline ; the entrance, which is on the side, is in some nests almost concealed ; the reeds or grass to which the nest is attached form part of the structure itself, being interwoven with the other materials. Swamps, even where the water is several feet in depth, are the places most often selected for the nesting, but damp meadows are not infrequently chosen.

The number of eggs ranges from 5 to 8 and rarely 9. They are so thickly covered with spots and blotches of various shades of brown that in most cases the white ground colour is entirely obliterated. Size—.65 × .49. See Fig. 20, Plate C.

The Long-billed Marsh Wren is generally to be found in swamps of either brackish or fresh water, and there he and his mate may be seen during the breeding season, industriously feeding, building nests (for they build many that are apparently never used), singing while perched on the top of a cat-tail, or scolding the intruder, but never for a moment quiet.

The nests may be found within a few inches of the ground, or in tall reeds eight feet or more clear of either ground or water.

The accompanying photograph shows the young bird at the time of leaving the nest, its brothers and sisters having already left.

The eggs are laid about the third week in May.

725b. Worthington's Marsh Wren: C. p. griseus (Brewst.)

A southern sub-species of the long-billed marsh wren, being lighter and more gray in colour; its breeding habits are probably identical.

Breeding Range—"The coast region of South Carolina and Georgia." (The A. O. U. checklist.)

725.1. Marian's Marsh Wren: C. p. marianæ Scott.

Resembling the long-billed marsh wren, but darker, smaller, and with the under parts barred.

Breeding Range—The Gulf coast of Florida.

These birds are found in salt-water or brackish marshes, where they breed ; the nests are described as similar to those of the long-billed marsh wren.

Chapter V

NESTS IN BUILDINGS, BRIDGES, WALLS, ROCKS, BANKS, AMONG ROOTS, BRUSH HEAPS, AND IN HOLES IN THE GROUND

349. Golden Eagle: Aquila chrysaëtos (Linn.)

Adult—Dark brown; back of head and neck rusty, with pointed feathers; the lower part of leg (tarsus) covered with white feathers. "Length—♂ 30.00 to 35.00. ♀ 35.00 to 40.00."

Breeding Range—Rarely east of the Mississippi, breeding probably in the mountainous regions of New York and New England.

The nest is placed usually on rocky cliffs, but sometimes in trees; it is very large, being as much as "four feet in depth and five feet in diameter," and is made of "sticks and lined with straw stubble, green grass, and twigs in leaf" (Davie).

The eggs, 2 or 3 in number, are whitish, blotched, spotted, and faintly clouded with chestnut brown and pale lavender. Size—2.95 × 2.28.

The Golden Eagle breeds in the mountains of the West, and is rarely found nesting in the Eastern States. In California the eggs are laid toward the end of February.

356. Duck Hawk; Peregrine Falcon: Falco peregrinus anatum (Bonap.)

Adult—Upper parts dark slate colour; tail darker, tipped with white; under parts cream, barred with dark slate colour or black, except upper part of breast. "Length—♂ 16.00; ♀ 19.00."

Breeding Range—The Eastern States—breeding very locally.

The nest is usually placed in the ledges of rocks in the mountainous districts, but sometimes a hollow in a large tree is used. 3 to 4 eggs are laid; they vary greatly in colour; some are creamy white with dark chocolate blotches, and others are reddish brown, spotted and blotched with various shades of the same colour. Size—2.08 × 1.63.

Few people associate the name of Duck Hawk with the Peregrine Falcon of history, yet this is the bird that was used when falconry was the fashionable pastime; at that time almost any price was paid for a well-trained tercel, as the male bird was called; now that falconry has almost died out, the name of peregrine will probably go, and the more common name of duck hawk will be the only name by which this bird will be known.

The breeding season in the South begins in March.

357. Pigeon Hawk: Falco columbarius Linn.

Adult—Upper parts slate colour; tail with white bars; under parts buff, marked with deep brown.

Immature—Upper parts brownish or ashy brown; tail barred with buff; under parts light rusty buff with streaks of deep brown. Length—10.00 to 13.00.

Breeding Range—Seldom very far south of the northern boundary of the United States.

The place chosen for nesting may be on a cliff, in the hollow of a tree, or on the branches. 4 to 5 eggs are laid; they are light cinnamon or creamy white with blotches, clouded and spotted with chestnut and brown. Size—1.56 × 1.22.

365. American Barn Owl: Strix pratincola Bonap.

Adult—Upper parts a general mixture of yellowish buff and gray; under parts and face white or creamy white; no ear-tufts; eyes black. Length—18.00.

Breeding Range—From Connecticut, southward.

The nest is placed either in some part of an old building, a bridge, or in a hollow branch of a tree, rarely in banks or "holes in the ground" (Davie). The eggs are white and vary in number usually from 4 to 9. "Authentic sets of eleven" are mentioned by Davie." Size—1.72 × 1.35.

FLORIDA BURROWING OWL AT ENTRANCE OF THE BURROW IN WHICH ITS NEST IS SITUATED

Photographed in captivity

The American Barn Owl closely resembles its European cousin; in fact it may be found in most parts of the world, with but slight changes in its appearance. A set of eggs was taken at Princeton, New Jersey, on April 23d.

373. Screech Owl: Megascops asio (Linn.)

Eggs white.

See Page 98, Chapter VI.

373a. Florida Screech Owl: M. a. floridanus (Ridgw.)

Eggs white.

See page 99, Chapter VI.

378a. Florida Burrowing Owl: Speotyto cunicularia floridana (Ridgw.)

Adult—Upper parts grayish spotted and brokenly barred with white; under parts barred gray, white, and brown; throat white; legs long and very slightly feathered; no ear tufts. Length—9.00.

Breeding Range—Southern Florida prairies.

The eggs, numbering 5 to 7, are laid in burrows made by the birds themselves; they are white. Size—1.23 × 1.03. In the prairie lands of southern Florida these diurnal owls may be seen perched on the mounds near their burrows; they are very similar to the Western burrowing owl, being somewhat smaller and colder in colour; they are quite common in the open country west of Lake Okeechobee, Florida, where they breed in considerable numbers during April. They have known to breed in captivity. These birds probably remain paired for life.

390. Belted Kingfisher: Ceryle alcyon (Linn.)

Adult ♂—Upper parts grayish blue; wing feathers tipped with white; under parts white, with grayish-blue band across breast, and the same colour on the sides; long feathers on the head, forming a crest.

Adult ♀—Resembles the male except that the band on the breast and the sides is chestnut instead of gray. Length—13.02.

Breeding Range—Throughout the United States.

The eggs are laid in a deep hole made by the bird; it sometimes is as much as eight or nine feet, though usually not more than about four feet in depth; this is generally excavated in a bank of sand, gravel, or earth, rarely in a cliff; it often takes the bird two weeks to make the hole. The nest is occasionally made of grass, though the eggs are more frequently deposited on the ground among bones and refuse ejected by the parent bird.

The eggs are white, and number from 5 to 7 and sometimes 8. Size—1.35 × 1.05.

This is the only representative of the kingfisher family found in the Eastern States; he may be seen along the banks of a stream or river or pond, but lacking confidence in man, he will not admit of a near approach.

The breeding season begins the first week in May, and probably only one set of eggs is laid.

420. Nighthawk: Chordeiles virginianus (Gmel.)

Eggs olive, buff, or light gray, with numerous specks and blotches of darker gray, olive and purplish, sometimes spots of dark purplish gray evenly distributed.

See Page 39, Chapter I.

423. Chimney Swift: Chimney Swallow: Chætura pelagica (Linn.)

Adult—Dull grayish brown; the stiffened shafts of the tail feathers extend about half an inch beyond the vanes. Length —5.43.

Breeding Range—Throughout the Eastern States.

The nest is formed entirely of short sticks, fastened together and to the support with a glutinous substance from the birds' salivary glands (which shrink after the breeding season), and is nearly always placed in a chimney that is not in use; probably in more remote districts the nest is still built in hollow trees, as in former times, before chimneys were to be found throughout the country.

The eggs are white, and number from 4 to 6. Size—.80 × .50.

These birds may be easily identified by the dusky colour, thin, short, spinous tails, and by their flight, which consists of alternate strokes of the wings. (After careful observation I am practically sure that such is the case, though I believe this is a disputed point.) The twigs that form the nest are broken off while the bird is in flight.

The breeding season begins toward the end of May in the neighbourhood of New York. Possibly two sets of eggs are laid, as I have found a nest containing young birds not more than a day or two old on July 26th.

456. Phœbe: Sayornis phœbe (Lath.)

Adult—Upper parts grayish olive brown; top of head darker; under parts grayish white, slightly tinged with yellow.

Immature birds have the yellow more pronounced. Length—6.99.

Breeding Range—The Eastern States, from South Carolina northward.

The nest is built chiefly of moss and sometimes lichen, cemented together with mud and lined with hair. It is placed beneath the eaves of a house, on beams of a house or wooden bridge, against the perpendicular side of a stone bridge or culvert, against the face of a cliff, beneath projecting stones, or in almost any available place. The eggs are generally pure white, but it is not at all uncommon to find among a set one or two that have a few light reddish or dark brownish spots; the usual number is 4 or 5. Size—.78 × .57.

The Phœbe is perhaps one of the most common as well as one of the tamest of our birds. Year after year they will build or rebuild their nests in the same place, and that place is frequently over a door that is in constant use, the birds thus evincing but little fear of man.

The nesting place in former times was probably the face of a cliff, and even now it is not uncommon to find nests thus situated, though in the vicinity of buildings. During the past season I found no less than three nests on large stones or cliffs, and two of them were within a hundred yards or so of both a building and a bridge. Two successive broods are reared in different

nests, the first nest being begun about the middle of April and the second toward the middle of July. Both nests are built near or about in the same place, the first often being torn down to make room for the second. The birds will seldom forsake the nest, even when most of the eggs are taken; and I have removed a nest containing three eggs in order to photograph it, and even though it was not returned to its original place the female continued laying as if it had never been disturbed. After the young leave the nest they stay together, generally sitting close to each other on a low branch, taking short flights together or singly; this they do for five or six days, when they gradually become separated, the parent bird in the meantime feeding them.

463. Yellow-bellied Flycatcher: Empidonax flaviventris Baird.

Adult—Upper parts dark olive green; tail and wings dull grayish brown, the wings having two very pale yellowish bars; the belly lemon yellow, breast and side greenish yellow. Length—5.63.

Breeding Range—The more northern parts of the United States; not south of Berkshire County, Massachusetts.

The nest is made of moss, lined with fine grass and fine black roots and pine needles, usually imbedded in moss in the upturned roots of a fallen tree, or even in a decayed stump. 4 and possibly 5 eggs are laid; they are creamy white, speckled or spotted, chiefly at the larger end, with light chestnut. Size—.70 × .50.

Not very much is known of the breeding habits of this bird, comparatively few nests having been taken; breeding, as they usually do in the forests remote from civilisation, together with the fact that the nest is carefully concealed and therefore very hard to find, renders the studying of their nesting habits an extremely difficult task.

The breeding season probably begins in June.

486a. Northern Raven: Corvus corax principalis Ridgw.

It is possible that this sub-species of raven breeds within the United States, although I find no authentic record of its doing so. The bird is blue black, and is about four or five inches longer than the common crow (Corvus americanus).

NEST OF PHŒBE UNDER A STONE BRIDGE

PHŒBE'S NEST BUILT ON A BEAM, ACCORDING TO THE MOST UP-TO-DATE STYLE

The nest is usually built on cliffs in more or less inaccessible places, and sometimes in trees; it is composed of "large sticks closely and artistically arranged, with a lining of coarse grasses, sea-weed, and wool" (Davie). 2 to 7 eggs are laid; they are greenish blue, spotted, blotched, and streaked more or less heavily with olive brown. Size—1.90 × 1.27.

English Sparrow: Passer domesticus (Linn.)

This bird of foreign extraction was brought here from England in 1851, and for some years confined itself to the larger cities; since about 1870, however, it has been rapidly spreading, and may be found everywhere, in country and town, throughout the Eastern States; it has even crossed the great plains, and will probably soon be common in the West. The nest is placed either in buildings or trees, more often the former; it is of very irregular size, and of no particular shape, its size and shape depending on the amount of vacant space and the number of broods reared. The breeding season begins almost before winter has gone and lasts till late in the autumn. The eggs are generally whitish, thickly marked with dark gray or olive; sometimes they are plain gray. Size—About .80 × .60.

567. Snowbird; Junco: Junco hyemalis (Linn.)

Eggs greenish or bluish white, with fine spots and sometimes blotched with reddish and purple, brown and lilac, chiefly in a wreath round the larger end.

See Page 61, Chapter II.

567e. Carolina Junco: J. h. carolinensis Brewst.

Eggs same as the preceding, but somewhat larger.

See Page 61, Chapter II.

611. Purple Martin: Progne subis (Linn.)

Adult ♂—Blue black.

Adult ♀—Upper parts blue black; under parts grayish, with indistinct white tips to the feathers; belly white. Length —8.00.

Breeding Range—Throughout the United States.

The nests are built of any available material, and are generally placed in bird boxes or in buildings; formerly they nested in hollow trees, and perhaps they continue doing so in more remote districts.

The eggs, numbering 4 to 5, are white. Size—.98 × .73.

These birds are gradually leaving their old resorts. What is the cause of their so doing is hard to say; some people attribute it to the increasing numbers of the English sparrows. Some places that I know of (near South Orange, New Jersey) have been used during years past for nesting purposes; this year I was told the birds arrived about the usual time; after stopping for two days they left, and have not been seen again; but in this place the English sparrow had been carefully killed off, so that there were but few left.

The breeding season begins about the middle of May.

611. 1. Cuban Martin: Progne cryptoleuca Baird.

Very similar to the purple martin, but smaller, and with narrower tail feathers.

Breeding Range—Southern Florida.

Nest and nesting habits described as identical, except that it breeds in hollow trees as well as in buildings, and the eggs are slightly smaller.

612. Cliff Swallow; Eave Swallow: Petrochelidon lunifrons (Say.)

Adult—Upper parts dark steel blue; forehead nearly white; tail short and scarcely pointed; throat chestnut; breast gray shading into white on the belly; a blue-gray patch on upper part of breast; rump pale rufous or chestnut. Length—6.01.

Breeding Range—Throughout North America, north of Florida, breeding locally.

The nest is built of pellets of mud, with sometimes small bits of straw and grass; the lining is of grass and feathers; it is a queer-shaped nest, in the form of a retort, with the neck more or less formed, and is fastened beneath the eaves, or on the rafters of a building; in remote districts it is attached to cliffs or em-

BARN SWALLOW'S NEST OF MUD PELLETS AND STRAW

NEST AND EGGS OF ROUGH-WINGED SWALLOW

A large stone in front of nest was removed

bankments, the birds nesting in colonies. 4 or 5 eggs are laid; they are white, with dots and spots of reddish brown. Size—.82 × .56.

These birds somewhat resemble the barn swallows; the light chestnut rump and the shortness of the tail serve to distinguish them. The eggs of these two species are often identical.

The nesting season begins towards the end of May.

613. Barn Swallow: Chelidon erythrogaster (Bodd.)

Adult—Upper parts dark steel blue; forehead, throat, and upper part of breast chestnut; under parts light chestnut buff; tail forked. Length—6.95.

Breeding Range—Throughout North America.

The nest is placed on rafters and similar supports, either inside or outside a barn or other building; it is made of pellets of mud with straws intermixed, and a deep lining of hay and feathers, the feathers usually overhanging the edge of the nest. The eggs, 4 to 6 in number, are white, with spots, dots, and blotches of reddish brown and purplish. Size—.75 × .55.

These birds are surrounded by superstition, and all sorts of ill-luck is promised to the person who kills one or even destroys its nest.

Probably, in former days, farmers realised more fully the value of these insect-eating birds, as threats were made in order to protect them from mischievous boys.

Two broods are reared, the first set of eggs being laid about the beginning of May, the second about five or six weeks later.

614. White-bellied Swallow; Tree Swallow: Tachycineta bicolor (Vieill.)

Adult—Upper parts greenish blue steel colour; under parts white. Length—5.90.

Breeding Range—"From the fur countries south to New Jersey, the Ohio Valley, Kansas, and Colorado" (A.O.U. check-list).

Nest either in bird boxes, in hollow trees, or in cliffs. 4 to 6, or sometimes 7, unmarked white eggs are laid. Size—.75 × .55.

In some parts of the country these swallows have not yet abandoned their ancient custom of breeding in hollow trees and

other natural cavities, while in the more thickly settled regions they have utilised the nesting places provided for their convenience by man. It will probably not be many years before hollow trees will no longer be used, except possibly as roosting places. The breeding season lasts from the middle of May until July, two broods being reared; after the young of the first brood are strong enough they commence flocking, and may be seen early in July flying in large numbers over the low lands; these are joined by the second broods and the parents about the beginning of August, so that the flocks contain countless numbers. In the early morning, as the sun appears on the horizon, these birds sit along the telegraph wires sunning themselves and making their morning toilet.

616. Bank Swallow: Clivicola riparia (Linn.)

Adult—Upper parts and band on breast grayish brown; under parts white. Length—5.20.

Breeding Range—Throughout North America.

The nest is composed of small twigs, grass, and feathers, placed in a hole made in the face of a bank, usually near water, the banks of a river being most suitable. The eggs are white, the number being usually 4 or 5, sometimes as many as 7. Size—.68 × .50.

The Bank Swallows generally breed in large colonies, occupying the entire face of a bank, which they honeycomb with their nesting holes; these excavations are usually about twenty inches deep, but some are as much as four feet from the surface.

These birds are rather smaller than the rough-winged swallow, and may be distinguished by the grayish band across the breast. The breeding season begins about the middle of May, two broods being reared.

617. Rough-winged Swallow: Stelgidopteryx serripennis (Aud.)

Adult—Upper parts grayish brown; under parts gray, breast shading into white on the belly. The outer wing feather (first primary) is edged with "recurved hooklets," and is rough to the touch. Length—5.75.

Breeding Range—Throughout North America; in the Eastern States from Connecticut southward.

BROOD OF YOUNG BARN SWALLOWS AT TIME OF LEAVING THEIR NEST

The nest, scarcely worthy of the name, is a small collection of feathers, grass, and straw, placed under bridges, in stone walls, or in holes in banks. 4 to 6, and rarely 8, white eggs are laid. Size—.71 × .50.

These birds generally build near water, the nests being frequently placed in crevices between the stones of bridge abutments, or even on the beams.

The eggs are laid early in May, many days being occupied in building the nest.

675. Water-thrush: Seiurus noveboracensis (Gmel.)

Adult—Upper parts olive brown, somewhat darker on the head; line above the eye buff, or nearly white; under parts white, more or less tinged with light yellow, numerous spots forming broken streaks, less numerous on the belly; the individual spots, particularly those on the breast, are V-shaped. Length—6.04.

Breeding Range—The Northern States, from northern New England northward.

The nest is composed principally of moss, with leaves and roots, and lined with fine hair-like roots. It is placed among the roots of a tree where the bank has fallen away, in a bank, or similar place. The eggs are white, with rather large cinnamon or hazel-brown spots, more thickly distributed about the larger end. Size—.76 × .59.

To find the nest of any of the Water-thrushes requires more than ordinary patience and skill, as they are most cleverly hidden among the overhanging roots along the banks of a stream, or in a mossy bank, usually not far from water. These birds may be seen in damp woods, dried up watercourses, but most frequently along a shallow stream, where they stand or walk on the stones, moving their tails up and down, after the manner of the wagtails, and making short, rapid flights to catch the various insects that fly near the surface of the water. The breeding season begins during the second week in May.

675a. Grinnell's Water-thrush: S. n. notabilis (Ridgw.)

Very similar to the water-thrush, but somewhat larger and darker n the upper parts. Nesting habits, nests, and eggs identical.

Breeding Range—From Illinois westward and northward.

10646

676. Louisiana or Large-billed Water-thrush: Seiurus motacilia (Vieill.)

Adult—Upper parts warm olive brown; white line over eye; under parts white, tinged with yellow, and streaked with dark brown or blackish; V-shaped spots except on the throat; bill rather large. Length—6.28.

Breeding Range—Southern Michigan, New York, and southern New England, southward to North Carolina and possibly further south.

The nest is made of leaves with mud adhering to them, moss, "grape-grass, and sometimes hair"; it is placed in banks among roots, etc., in moist or swampy woods. The eggs are white to creamy white, speckled and spotted with reddish or yellowish brown and pale lilac. Size—.76 × .62. See Fig. 13, Plate C.

In the neighbourhood of New York the nesting season begins during the first week in May.

In habits these birds resemble the water-thrush, frequenting the streams and rivers and damp woods; their song is remarkably fine, considered by some to be finer than that of any other of our Eastern birds.

686. Canadian Warbler; Canada Flycatcher: Sylvania canadensis (Linn.)

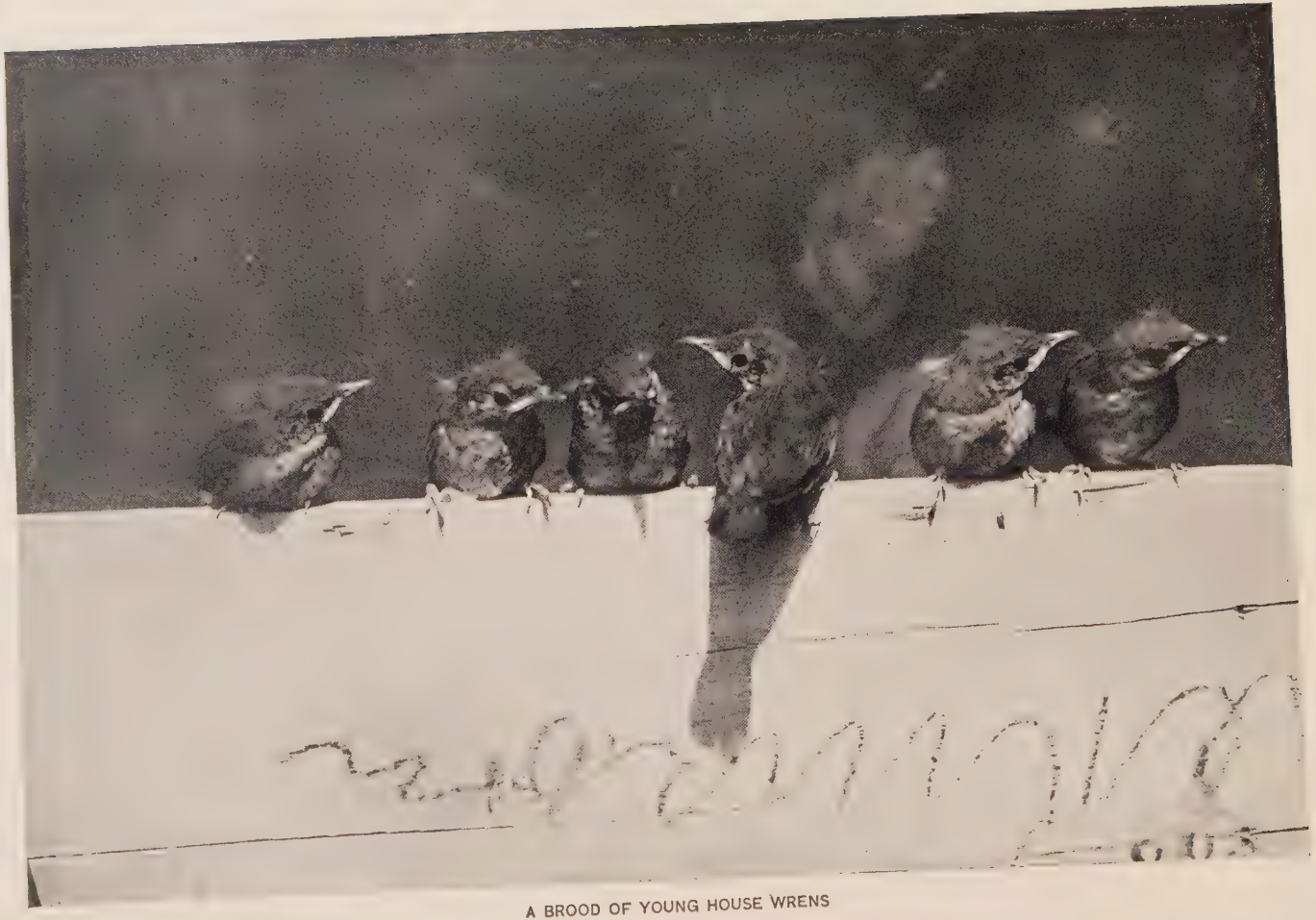
Adult ♂—Upper parts rather dark gray; forehead and front of crown spotted black; line from bill, under eye, and on sides of throat black; spots across breast black; under parts bright yellow; rather long bristles at base of bill. Length—5.61.

Adult ♀—Similar, but less brilliant.

Breeding Range—From New England, northern Pennsylvania, and Michigan, northward.

The nest is usually placed in a bank or among the roots of a fallen tree, or on the ground beneath bushes in swampy woods, and is carefully concealed; it is made of moss, leaves, weeds, strips of bark, and fine roots, sometimes lined with hair. The eggs, 4 or 5 in number, are white, speckled principally round the larger end with hazel, reddish brown, and lilac. Size—.68 × .51.

The breeding season begins early in June.



A BROOD OF YOUNG HOUSE WRENS

718. Carolina Wren: Thryothorus ludovicanius (Lath.)

Adult—Upper parts chestnut brown; white line from the bill over and back of eye; wings and tail barred; throat nearly white, shading into buffy gray on breast and belly. Length —5.50.

Breeding Range—From southern Connecticut southward.

The nest, placed in hollow trees, or about buildings, is composed of corn-leaves, grass, leaves, feathers, and hair. 4 to 6 eggs are laid; they are white or pinkish, with numerous light pinkish brown and lilac gray markings; in some examples the ground colour is almost concealed by these spots. Size—.74 × .61. See Fig. 3, Plate C.

This large wren is most often to be found, except during the nesting season, in or near damp places, usually near the ground; the nest, however, is generally in a drier situation, such as a wood or brush pile, inside a barn, or in the hollow of a tree. The birds are not common in the more northern portion of their range. In South Orange, New Jersey, I noticed a pair of them frequently during June and July, and have every reason to believe they nested here. A nest was found not far from this locality in a barn. The nesting season begins in the early part of May.

718a. Florida Wren: T. l. miamensis Ridgw.

A larger and darker-coloured sub-species of the Carolina wren. Nesting habits and nests probably identical.

Breeding Range—Southern Florida.

719. Bewick's Wren: Thryothorus bewickii (Aud.)

Adult—Upper parts dark cinnamon brown ; feathers of the rump with concealed downy white spots; primaries not barred; central tail-feathers barred; outer ones black, tipped with grayish; a white line over the eye; under parts grayish-white; flanks brownish. Length—5.00 (Chapman).

Breeding Range—From latitude forty degrees southward; "rare east of the Alleghanies."

The nest, like that of the house wren, is placed in houses, holes in stumps or trees, brush heaps, etc. The eggs, varying

in number from 4 to 6, and sometimes 7, are white or pinkish, with numerous reddish brown and purplish spots and specks more thickly distributed about the larger end. Size—.64 × .50. See Fig. 17, Plate B.

Bewick's Wren may be distinguished from the house wren principally by its longer tail; the habits are very similar.

721. House Wren: Troglodytes aëdon Vieill.

Adult—Upper parts grayish hazel brown, more or less barred; under parts light gray, faintly barred with brownish on the flanks. Length—5.00.

Breeding Range—Throughout the Eastern States.

The nest is composed of almost any material, twigs, hay, and feathers being most often used, the lining being of soft feathers; any sort of place is selected for a building site, such as a hole in a tree, crevices or niches in walls or houses, behind shutters, on rafters, etc.

The eggs are usually so thickly covered with reddish or pinkish brown or chocolate markings that the white or whitish ground colour is partly or entirely hidden; the number varies from 4 to 7, sometimes 9. Size—.60 × .48. See Fig. 18, Plate C.

The nesting season begins about the middle of May, and the places selected may well cause surprise, nests having been found in the skulls of cattle lying in open fields, but I think buildings are most often chosen. I have known of a case where a nest was built in an inhabited room. The name of House Wren fits these birds to perfection, especially during the breeding season, when they may be seen almost invariably within a short distance of a building.

722. Winter Wren: Troglodytes hiëmalis Vieill.

Adult—Upper parts reddish brown, more or less barred and slightly spotted; under parts brownish gray, barred, particularly on the sides; tail and bill short. Length—4.06.

Breeding Range—From the Northern States northward, and in the mountainous regions, southward to North Carolina.

The nest, which is placed in hollow stumps among the roots

PLATE C.—Common Eggs.

1. Bluebird.
2. Crested Flycatcher.
3. Carolina Wren.
4. White-breasted Nuthatch.
7. Meadowlark.
8. Towhee.
9. Red-winged Blackbird.
10. Baltimore Oriole.
12. Oven-bird.
13. Louisiana Water-Thrush.
14. Slate-colored Junco; Snowbird.
15. Swamp Sparrow
16. Maryland Yellow-throat.
17. Black and White Warb
18. House Wren
19. Chickadee.
20. Long-billed Marsh Wren.
21. Parula Warbler.

of a tree, in brush heaps, or in deserted buildings, is of "small twigs, with moss and leaves interwoven, and warmly lined with feathers of hawks, crows, grouse, or any that are at hand" (Davie). 4 to 7 eggs are laid, varying from pure white with reddish brown and purple spots to creamy white with but few specks of reddish brown. Size—.69 × .49.

Though something like the house wren in appearance, the habits of the Winter Wren are very different; instead of nesting near the habitations of man, they usually select places away from human beings. In the autumn they may be seen hopping about from stone to stone or in the tangle alongside a broken-down wall in the vicinity of small rapid-running brooks, generally solitary, two being rarely seen together.

The breeding season begins about the last week in May.

726. Brown Creeper: Certhia familiaris americana (Bonap.)

Eggs white, spotted with reddish brown, chiefly at the larger end.

See Page 108, Chapter VI.

761. American Robin: Merula migratoria (Linn.)

Eggs greenish blue. Nests sometimes in stone walls or buildings.

See Page 170, Chapter VIII.

Chapter VI

NESTS IN HOLES IN TREES, STUMPS, OR LOGS

325. Turkey Vulture; Turkey Buzzard: Cathartes aura (Linn.)

Eggs yellowish or grayish white, splashed with chocolate and black, chiefly at the larger end.

See Page 57, Chapter II.

326. Black Vulture: Catharista atrata (Bartr.)

Eggs grayish or bluish white, more or less blotched and spotted with dark brown.

See Page 58, Chapter II.

356. Duck Hawk: Falco peregrinus anatum (Bonap.)

Eggs creamy white or light reddish brown, with dark and light chocolate and reddish brown blotches.

See Page 81, Chapter V.

357. Pigeon Hawk: Falco columbarius Linn.

Eggs light cinnamon or creamy white, blotched, spotted, and clouded with chestnut and brown.

See Page 82, Chapter V.

360. American Sparrow Hawk: Falco sparverius Linn.

Adult ♂—Upper parts chestnut red or rufous ; lower part of back barred ; head bluish ; a black patch beneath eye, and another

back of ear; tail rufous, with a broad black bar and tipped with white; under parts buff and pinkish buff shading to white and spotted with black on the sides.

Adult ♀—Upper parts duller rufous barred black; under parts dull buffy white, streaked with black spots. Length—10.00.

Breeding Range—Throughout the Eastern States.

The eggs are laid in a hole in a tree, often a woodpecker's hole being used; there is no lining. The colour of the eggs varies greatly, the ground colour being white, buff, or pinkish buff, marked with irregular spots and blotches of dark or light chestnut, brown, or chocolate, sometimes entirely concealing the ground colour at the larger end. Size—1.35 × 1.15. See Fig. 3, Plate A.

While the Sparrow Hawk may be said to nest almost exclusively in the hollow of a tree, there have been instances of variation from this rule, eggs having been found "in crevices in rocks, in holes in banks, along rivers, or nooks about buildings" (Davie).

The breeding season begins about the middle of April. Incubation occupies about three weeks.

365. American Barn Owl: Strix pratincola Bonap.

Eggs white.

See Page 82, Chapter V.

368. Barred Owl: Syrnium nebulosum (Forst.)

Adult—Upper parts gray or grayish brown, marked with white and drab; under parts whitish, the breast barred and the belly streaked; head large and round, without ear tufts; feet and toes feathered. Length—20.00.

Breeding Range—Eastern States from northern Florida northward.

The eggs are usually deposited in a hollow in a tree, at some height from the ground; sometimes old crows' or hawks' nests are used. Minot writes, "Evidence indicates that the Barred Owls usually build their own nest, choosing for a site some crotch next to the trunk of a pine or oak." I find no corroboration of this statement, however, though this may possibly be the case in some parts of the country. 2 to 4 white eggs are laid. Size—2.00 × 1.65. These are by far the most common of the larger owls throughout the Eastern States. They breed in the neighbourhood of New

York about the middle of March; the same hole may be used for many years.

368a. Florida Barred Owl: S. n. alleni Ridgw.

Breeding Range—Florida, Texas, and Louisiana.

A larger and darker sub-species of the more northern barred owl, having the toes but scantily feathered. Nesting habits are probably identical, two eggs being the number most frequently laid.

372. Saw-whet Owl; Acadian Owl: Nyctala acadica (Gmel.)

Adult—Upper parts grayish, streaked and spotted with white; under parts white, with few broad streaks of grayish or reddish brown; legs and feet fully feathered; no ear tufts. Length—8.00.

Breeding Range—Northern New York and northern New England, rarely in Massachusetts and Connecticut.

The white eggs are laid in hollows in trees, deserted woodpeckers' and squirrels' nests, also in crows' and even herons' nests; rarely in boxes made of bark and fastened to a tree, at some height from the ground. There is nothing in the way of a nest, a few feathers from the parent bird being sometimes used. 4 to 6 and rarely 7 eggs are laid. Size—1.20 × 1.02.

These diminutive owls are easily recognised by their size alone, as they are the smallest of the owls found in the Eastern States; they are strictly nocturnal, and may be seen during the day sitting on the branch of hemlock, spruce, or other trees affording shade from the bright daylight.

The breeding season begins about the end of March.

373. Screech Owl: Megascops asio (Linn.)

Adult—Either red or gray, independent of age or sex; every gradation between the extreme red and gray phases may be found. Extreme red phase: Upper parts brilliant rufous, streaked with black; under parts white or very light gray, streaked and cross-marked with black, particularly on the

PAIR OF YOUNG SCREECH OWLS

upper part of breast. Extreme gray phase: Upper parts cold gray, with black streaks; under parts almost white, with black streaks and cross-markings. These birds have pronounced ear tufts, sometimes called horns, and an irregularly defined black circle round the face; eyes various shades of light yellow; feet nearly covered with fine hair-like feathers. Length—9.40.

Breeding Range—Throughout the Eastern States from Georgia northward.

The eggs are generally to be found in the hollow of a tree, rarely in a barn or outhouse. There is practically no nest, but a few feathers, together with some small chips, rotten wood, rarely leaves and sticks, serve the purpose. 4 to 6 and sometimes 8 white eggs are laid. Size—1.45 × 1.22.

An old apple orchard is by far the most likely place for the Screech Owl's nest, and the most likely orchard is one situated near a farm where mice are plentiful. The hole selected for the nest may be within five or six feet of the ground or up high in the tree. Before examining the inside of a hole, much unnecessary trouble may be avoided by noticing whether there is a cobweb over the entrance; if there is, it shows that the hole is uninhabited by any bird.

The breeding season begins about the end of March or the first week in April. The young birds can be easily reared, but do not make good pets, as they show a most unamiable disposition, and do not become really tame. The fact that they practise cannibalism is also somewhat against keeping them as pets.

373a. Florida Screech Owl: M. a. floridanus Ridgw.

These resemble the common screech owl, but are rather smaller and darker in colour. Nesting habits probably identical.

Breeding Range—Florida, northward to the southern part of South Carolina.

382. Carolina Paroquet: Conurus carolinensis (Linn.)

Eggs white.

See Page 134, Chapter VIII.

392. Ivory-billed Woodpecker: Campephilus principalis (Linn.)

Adult ♂—Upper parts black, with two white stripes beginning at the bill and meeting on the back ; the wings have the secondaries white, so that in flight these seem to be a broad white band across the bird ; *crest scarlet ;* under parts black ; bill white.

Adult ♀—Has the crest black, but is otherwise the same. Length —20.00.

Breeding Range—The Gulf States and lower Mississippi Valley.

The nest is in a hole in the upper part of a tall tree ; eggs white, complement undetermined. Size—1.45 × 1.00.

This, the largest as well as the wildest of our woodpeckers, has been but little observed during the breeding season. In former years it was found in North Carolina, and even as far north as Indiana ; but the presence of man has forced it farther south, and now it is to be found chiefly in the dense cypress swamps of the Gulf States, where in some parts it is fairly common, though always shy and difficult of approach. The breeding season begins in all probability towards the end of March.

393. Hairy Woodpecker: Dryobates villosus (Linn.)

Adult ♂—Upper parts black, divided by a broad white line ; head black, with nape deep scarlet, and a broad white line above and another below the eye ; wings spotted with white ; under parts white.

Adult ♀—Lacks the scarlet on the head. Length—9.40.

Breeding Range—From North Carolina northward. The eggs are laid in a hole in a tree ; usually a dead or partly dead tree is chosen, a new hole being made every year. 4 to 5 and sometimes 6 white eggs are laid. Size—.97 × .70.

This bird might easily be mistaken for the downy woodpecker, its markings and colour being very similar ; it is, however, so much larger that there should be little difficulty in its identification. When searching for a tree suitable for their nesting purposes, these birds commence excavations in a great number of places, often making holes several inches deep before de-

YOUNG DOWNY WOODPECKER

Showing the mature appearance on the day of leaving its nest

ciding for or against some particular tree ; and I believe that if, after having found one that is thoroughly suitable, they imagine themselves observed while excavating, they will immediately abandon the tree.

The breeding season begins rather before the middle of May.

393b. Southern Hairy Woodpecker: D. v. audubonii (Swains.)

A smaller sub-species of the hairy woodpecker found south of North Carolina. Nesting habits and eggs identical.

394. Southern Downy Woodpecker: Dryobates pubescens (Linn.)

and

394c. Downy Woodpecker: Dryobates pubescens medianus (Swains.)

Adult ♂ —Upper parts black, with a white line down the back ; head black, with a white line above and another below the eye ; back of head deep scarlet ; under parts white.

Adult ♀ —No scarlet on the head. Length—6.83.

Breeding Range—Southern Downy Woodpecker, Florida to South Carolina. Downy Woodpecker from there northward.

Eggs in a hole, usually in a partly decayed tree, apple trees being perhaps the favourites, a fresh hole being made each season. 4 to 6 white eggs are laid on the bed of very fine chips at the bottom of the hole ; the entrance is very small and usually perfectly round, about one and a quarter inches in diameter. Size of eggs—.80 × .57.

The Downy Woodpeckers are the smallest and undoubtedly the tamest of the members of their family found in the Eastern States. In apple orchards they are generally to be found during the summer months, and there it is that they choose their nesting tree, laying their eggs about the first of May.

395. Red-cockaded Woodpecker: Dryobates borealis (Vieill.)

Adult ♂ —Upper parts black barred with white ; wings spotted with white ; a scarlet tuft on either side of the head, back of

the ear ; under parts white ; a black line from bill to shoulder, and blackish spots and bars on the sides and below the tail.

Adult ♀—Has no scarlet, otherwise similar. Length—8.40.

Breeding Range—From Virginia southward.

The eggs, 3 to 5, rarely 6, are white, and are deposited in a hole in a tree or stump, usually at a considerable height. Size of eggs—.91 × .68.

These birds are found in the pine regions of the south, where they are said to breed in March.

400. Arctic Three-toed Woodpecker: Picoides arcticus (Swains.)

Adult ♂—Upper parts black ; wings spotted with white; crown yellow ; white line back of and in front of eye ; under parts white, barred on the sides with blackish ; three toes, two of which are in front.

Adult ♀—No yellow crown. Length—9.50.

Breeding Range—From slightly south of the northern boundary of the United States northward.

Eggs in a hole, usually in an evergreen tree, and not far from the ground. 4 to 6 white eggs are laid. Size—1.00 × .70.

The Arctic Three-toed Woodpecker is found chiefly in the large coniferous forests in the mountainous regions. The breeding season begins probably during the early part of June.

401. American or Banded Three-toed Woodpecker: Picoides americanus Brehm.

Adult ♂—Upper parts black and white barred ; orange patch on head ; under parts white, barred black on the sides ; three toes, two being in front.

Adult ♀—Similar, without the yellow crown. Length—8.75.

Breeding Range—Rarely south of the northern boundary of the United States.

The eggs, which are white, are deposited in the hollow of a tree. Size—.93 × .70. There are only isolated cases of this bird nesting within the United States. The breeding habits are probably very similar to those of the arctic three-toed woodpecker.

THE DOWNY WOODPECKER'S HOME.

In the dead branch of an apple tree.

(Upper hole shows entrance to nest, made by the bird. The lower opening was made to show the eggs.)

402. Yellow-bellied Sapsucker: Sphyrapicus varius (Linn.)

Adult ♂—Upper parts black, white, and pale lemon; top of head scarlet; a broad white line from bill beneath the eye; throat deep scarlet, bordered with black; black also on the breast; belly pale lemon yellow; side streaked roughly with blackish.

Adult ♀—No scarlet; the breast grayish. Length—8.56.

Breeding Range—From the northern United States northward.

The nest is in a hole in a tree, usually from 30 to 45 feet from the ground. 5 to 7 not very highly polished white eggs are laid. Size—.85 × .60.

In speaking of this bird, Mr. Brewster mentions the dead birch as being preferred to any other tree for nesting purposes, and the locality chosen is usually not far from water.

405. Pileated Woodpecker: Ceophlœus pileatus (Linn.)

Adult ♂—Upper parts black, and line below cheek scarlet; rest of head mostly whitish; under parts blackish; throat white.

Adult ♀—Without the red. Length—17.00.

Breeding Range—Rare throughout the Eastern States from Canada southward, except in the thickly wooded regions remote from civilization.

The excavation for the nest is usually in the upper part of a tall tree, sometimes as much as eighty feet from the ground. 3 to 5 glossy white eggs are laid. Size—1.30 × .96.

This is the second largest of our woodpeckers; in fact, the novice has often mistaken him for the ivory-billed, but he differs greatly in his habits, and is much less wild. In Maine I have watched them hammering at the large evergreen trees within a few feet of where I was standing, and they did not appear to object to my presence.

406. Red-headed Woodpecker: Melanerpes erythrocephalus (Linn.)

Adult—Entire head and throat crimson; back, tail, and primaries black; rump, tail coverts, and belly white. Length—9.75.

Breeding Range—From northern New York southward; rare in New England.

4 to 6 glossy white eggs are laid in a hole in either tree or stump, or even telegraph pole. Size—1.00 × .78.

These birds, in their bright tricolour of red, white, and black, are conspicuous wherever found ; it is difficult to imagine a much more striking plumage ; whether in the air, against the tree trunk, or in the foliage, one of their broad patches of colour is sure to be visible.

In some respects these woodpeckers almost resemble fly-catchers ; they sit on an isolated tree or stump, making short sallies after insects ; these they catch with great dexterity in mid-air, invariably returning to the same place, which is sometimes within a few feet of their nest. The breeding holes, which are new each season, are often in large, live trees of almost any variety, but I think stumps and dead or partly dead trees are perhaps preferred ; in some instances the eggs have been deposited in buildings.

The breeding season begins rather before the middle of May.

409. Red-bellied Woodpecker: Melanerpes carolinus (Linn.)

Adult ♂—Upper parts black and white barred ; head and neck crimson ; under parts whitish.

Adult ♀—Back of head and nostrils crimson. Length—9.50.

Breeding Range—The Eastern States, "from Florida to Maryland, and in the interior to Ontario and southern Dakota" (Chapman).

The nests are in holes in trees, usually less than twenty feet from the ground. The eggs, 4 to 6 in number, are white. Size—1.00 × .78.

The breeding season begins early in May.

412. Flicker; Golden-winged Woodpecker: Colaptes auratus (Linn.)

Adult ♂—Upper parts grayish brown, with narrow bars of black ; rump white ; tail black, with yellow shafts ; head gray, with a scarlet band across the neck and black patch below eye ; primaries black above, with yellow shafts, and

A BROOD OF YOUNG FLICKERS ABOUT TO LEAVE THEIR NEST
The white tips of the bill show where the hardening process is taking place

yellow beneath ; under parts light pinkish brown, shading into whitish on the belly, with numerous black spots ; black crescent across upper part of breast.

Adult ♀—Has no black below the eye. Length—12.00.

Breeding Range—Throughout the Eastern States.

The eggs are white, and vary greatly in number, from 4 to 9 being common numbers ; they are laid in holes excavated by the birds themselves, in natural cavities, and in deserted holes made either by their own species or by other woodpeckers. Any tree may be chosen, but the apple tree is perhaps the favourite. Size—1.10 × .90.

The Golden-winged Woodpecker is one of the most handsomely coloured and best known of the Eastern woodpeckers, nearly every orchard containing a pair or more during the breeding season, which begins early in May. The nests may be found within four feet of the ground, but more frequently from ten to twenty-five and sometimes as much as sixty feet high ; dead stumps or almost any sort of tree may be chosen. Probably no other woodpecker found in the Eastern States will use an old deserted nest ; the golden-winged, however, does so frequently. When a new hole is to be made, both male and female take turns at excavating, the work being done at odd times during the day, and not only in the early morning and evening, which are the working times of the downy woodpecker. This unfortunate bird is subjected to various nicknames, some of which are misnomers, such as the name "Yellow-hammer," which is the name of a European bunting (Emberiza citrinella); and some of the names given him, such as "Flicker," "High-hole," "Woodcock," "Pigeon Woodpecker," and "Clape," are not altogether appropriate, and certainly not euphonious.

The nesting season near New York begins early in May.

452. Crested or Great Crested Flycatcher: Myiarchus crinitus (Linn.)

Aault—Upper parts olive brown or gray ; tail and edges of primaries chestnut ; feathers on crown rather long, forming a short crest ; under parts pale gray on throat and breast, shading into pale lemon yellow on the belly. Length—9.01.

Breeding Range—Throughout the Eastern States.

Nest in a hollow in a tree ; it is rather bulky, composed of grasses, weeds, feathers, and frequently cast-off snake skins. The eggs, 3 to 6 in number, are buff-colored, with numerous light and rather dark wine-colored or purplish longitudinal streaks and scratches. Size—.82 × .62. See Fig. 2, Plate C.

This noisy flycatcher is in some places a very common bird. He chooses almost any sort of hole for his nest, the size making but little difference to him ; neither does he seem very particular as to the kind of tree, though most of the nests I have found were in dead or partly dead apple trees. Once I knew of a bluebird's nest containing young about four days old ; near this nest a pair of Crested Flycatchers were constantly to be seen. Day after day I visited the place in order to watch and photograph the young bluebirds, and my friends the flycatchers were invariably either on some part of the tree or very near to it. This was during the third week in May, and therefore rather early for them to be nesting. A week after the bluebirds had flown, the flycatchers commenced building, placing their collection of material on the top of the bluebird's abandoned nest. Usually the hole chosen is not more than twenty feet from the ground, and often not more than six feet.

The nesting season commences about the last week in May.

511. Purple Grackle ; Crow Blackbird : Quiscalus quiscula (Linn.)

Eggs greenish, dashed and streaked with reddish brown or black ; very variable.

See Page 140, Chapter VIII.

511a. Florida Grackle : Q. q. aglæus (Baird.)

Eggs similar to the preceding.

See Page 140, Chapter VIII.

511b. Bronzed Grackle : Q. q. æneus (Ridgw.)

Eggs greenish or dull bluish, scrawled, blotched, and spotted with browns ; very variable.

See Page 141, Chapter VIII.

NEST AND EGGS OF CRESTED FLYCATCHER

Opening made to show nest

614. White-bellied or Tree Swallow: Tachycineta bicolor (Vieill.)

Eggs white.

See Page 89, Chapter V.

637. Prothonotary Warbler: Protonotaria citrea (Bodd.)

Adult ♂—Upper parts greenish; entire head and under parts brilliant orange, lighter on the belly.

Adult ♀—Not so richly coloured. Length—5.50. See Fig. 20, Plate D.

Breeding Range—From Illinois and Virginia southward, rare farther north. The nest of leaves, twigs, moss, and fine roots is placed in a hole in a tree or stump, in the bottom-lands. 4 to 6 and rarely 7 eggs are laid; they are glossy white or pale buff, "spotted, blotched, and dotted with rich chestnut brown; in some the ground colour being almost obscured by the markings" (Davie). Size—.73 × .52.

These beautiful Warblers frequent streams and swamps, building their nests in stumps or trees that overhang or stand in the water, the deserted nests of the woodpeckers and chickadees being in much demand; the hole selected is very low, sometimes within two feet, and seldom more than fourteen feet, of the ground. The breeding season is in May.

718. Carolina Wren: Thryothorus ludovicianus (Lath.)

Eggs white or pinkish white, with numerous pinkish brown and lilac gray markings, the ground colour being sometimes concealed.

See Page 93, Chapter V.

718a. Florida Wren: T. l. miamensis Ridgw.

Eggs similar to the preceding.

See Page 93, Chapter V.

719. Bewick's Wren: Thryothorus bewickii (Aud.)

Eggs white or pinkish, with numerous reddish brown and purplish spots and specks, more thickly distributed about the larger end.

See Page 93, Chapter V.

721. House Wren: Troglodytes aëdon Vieill.

Eggs usually so thickly covered with reddish brown or chocolate markings that the white or whitish ground colour is partly or entirely hidden.

See Page 94, Chapter V.

722. House Wren: Troglodytes hiemalis Vieill.

Eggs white or creamy white, with reddish brown and purple spots and specks.

See Page 94, Chapter V.

726. Brown Creeper: Certhia familiaris americana (Bonap.)

Adult—Upper parts brownish gray, white, and buff, somewhat barred; under parts white; tail stiff, and sharp at the points; bill very pointed and with a slight downward curve. Length —5.66.

Breeding Range—The northern United States, northward.

The nest is usually placed inside the loose bark of a tree or stump—sometimes within the rift of a tree that has been struck by lightning—and is composed of felted material, soft feathers, moss, twigs, spider cocoons, etc. 5 to 8 eggs are laid; they are creamy white, spotted with reddish brown chiefly at the larger end. Size—.59 × .47.

Ever busy with his endless task of climbing tree after tree in his search for the necessaries of life, the Brown Creeper lives up to his name; he methodically creeps up a tree till he arrives at

the place where the bark is smooth, then he drops either to another branch or to the foot of the next tree, and there he goes through just the same performance again; this continues, as far as one can judge, from early morning till nearly dark. During the breeding season, which begins about the middle of May, this bird has a pleasing, though short, song.

727. White-breasted Nuthatch: Sitta carolinensis Lath.

Adult ♂—Upper parts gray; crown black, extending partly down the back; under parts white; under tail feathers and lower part of belly light chestnut.

Adult ♀—Crown and upper part of back dark gray. Length—6.07.

Breeding Range—Throughout the Eastern States from Georgia northward.

The nest, of feathers, leaves, and hair, is placed in a hole in a tree, a natural cavity, or the abandoned excavation made by a woodpecker may be used indiscriminately, the height from the ground being from sixty feet downwards.

The eggs, numbering 5 to 9, or even 10, are creamy or pinkish white, with numerous spots and specks of light reddish, yellowish, and purplish brown, rather more thickly distributed about the larger end. Size—.77 × .56. See Fig. 4, Plate C.

The White-breasted Nuthatch may be easily distinguished from other nuthatches by his superior size and the absence of black on the cheek. The breeding season begins about the middle of April, two broods being frequently reared.

727b. Florida White-breasted Nuthatch: S. c. atkinsi Scott.

A smaller sub-species of the common white-breasted nuthatch, the female resembling the male in having the black crown. Range, Florida and South Carolina.

728. Red-breasted Nuthatch: Sitta canadensis Linn.

Adult ♂—Upper parts gray; head black, with a white line over the eye; under parts buffy red, except the throat, which is white.

Adult ♀—The black of head replaced by gray. Length—4.62.

Breeding Range—"May be roughly defined as embracing the entire spruce-forested regions of northern New England, including portions of Berkshire and Worcester counties, Massachusetts" (Brewster).

The nest, of fine grass, is in a cavity, usually in a decayed tree, from four to fifteen feet from the ground. 4 to 6 eggs are laid; they are creamy white, with numerous reddish brown and lavender spots. Size—.60 × .48.

In writing of this small nuthatch, Davie mentions a curious fact connected with its nests: "The bark at their entrance is coated with fir-balsam or pitch, from an inch to three or four inches around the hole. In one instance the pitch extended down for twenty-one inches, and was stuck full of the red breast feathers of the nuthatches." The breeding season begins in June, occasionally two broods being reared.

729. Brown-headed Nuthatch: Sitta pusilla (Lath.)

Adult—Upper parts gray; top and back of head grayish brown, with a spot of white over the nape; under parts light gray or whitish. Length—4.50.

Breeding Range—From Virginia southward.

Nest placed usually in a hole, made by the birds themselves, in a stump or tree, within a few inches of, or as much as sixty feet from, the ground.

It is composed of "short pieces of grass, bits of cotton wool, feathers, and the leaf-like substance of 'pine seed leaves'" (Davie). The eggs, 4 to 6 in number, are more or less heavily spotted and blotched with reddish brown and pale lilac. Size—.56 × .46.

The Brown-Headed is the smallest of the Eastern nuthatches, and is readily identified by the white spot on its neck. Breeding season in March.

731. Tufted Titmouse: Parus bicolor Linn.

Adult—Upper parts gray; forehead black; crest gray; under parts light gray, to white on the belly; the sides washed with reddish brown. Length—6.00.

Breeding Range—From northern New Jersey southward.

INTERIOR OF CHICADEE'S NEST WITH YOUNG BIRDS

CHICADEE ABOUT TO ENTER ITS NEST WITH FOOD FOR YOUNG

The nest, simply a collection of short hair, moss, leaves, and strips of bark, is placed most frequently in a deserted woodpecker's hole, or in a natural cavity in a tree, usually one that is dead. 4 to 8 eggs are laid ; they are white or creamy, with large spots and specks of reddish and purplish brown, chiefly at the larger end. Size—.74 × .52.

These delightful little birds may be seen in the somewhat damp woods, usually in company with the ever-busy chickadee. They breed in April.

735. Chickadee: Parus atricapillus Linn.

Adult—Upper part of head and nape black ; back gray ; under parts, throat black, breast white, shading into grayish or buff on the sides and belly. Length—5.27.

Breeding Range—"From southern Illinois and Pennsylvania northward to Labrador, and southward along the Alleghanies to North Carolina" (Chapman).

The nest is made of moss, feathers, wool, plant fibre, fur, and sometimes entirely of short hairs. It is placed in a hole which may be either a natural cavity, a deserted woodpecker's nest, or made by themselves ; in the latter event they choose a decayed tree, by preference the white birch. The hole is seldom more than seventeen feet from the ground. The eggs number from 5 to 8 ; they are white, sparsely marked with light brown, purplish, and lilac spots and specks, chiefly at the larger end. Size—.57 × .47. See Fig. 19, Plate C.

These little acrobats of the forest, with their cheerful notes and confidential manners, are among the most delightful of our bird friends; they have but little fear of man, and their restless hopping from bough to bough, standing one moment on the twig and the next moment turning over and hanging beneath it, ever seaching for food, and uttering at intervals that note so peculiar to themselves, is a constant source of interest and amusement to the onlooker. The eggs may be found from about the middle of May, near New York. Damp woods and woodland swamps or ponds are the localities to which they retire during the nesting season. The young resemble the adult birds.

736. Carolina Chickadee: Parus carolinensus Aud.

A Southern species of the chickadee, its smaller size being the most distinctive point of difference. Length—4.06 to 4.75.

Breeding Range—From central New Jersey and Illinois southward.

Nesting habits and eggs similar to the preceding.

740. Hudsonian Chickadee: Parus hudsonicus Forst.

Very similar to the chickadee, the principal differences being upper part of head brown instead of black; back brownish gray; sides chestnut.

Breeding Range—Northward from the northern part of New England, and probably in the Adirondacks.

Nesting habits very similar to those of the chickadee.

766. Bluebird: Sialia sialis (Linn.)

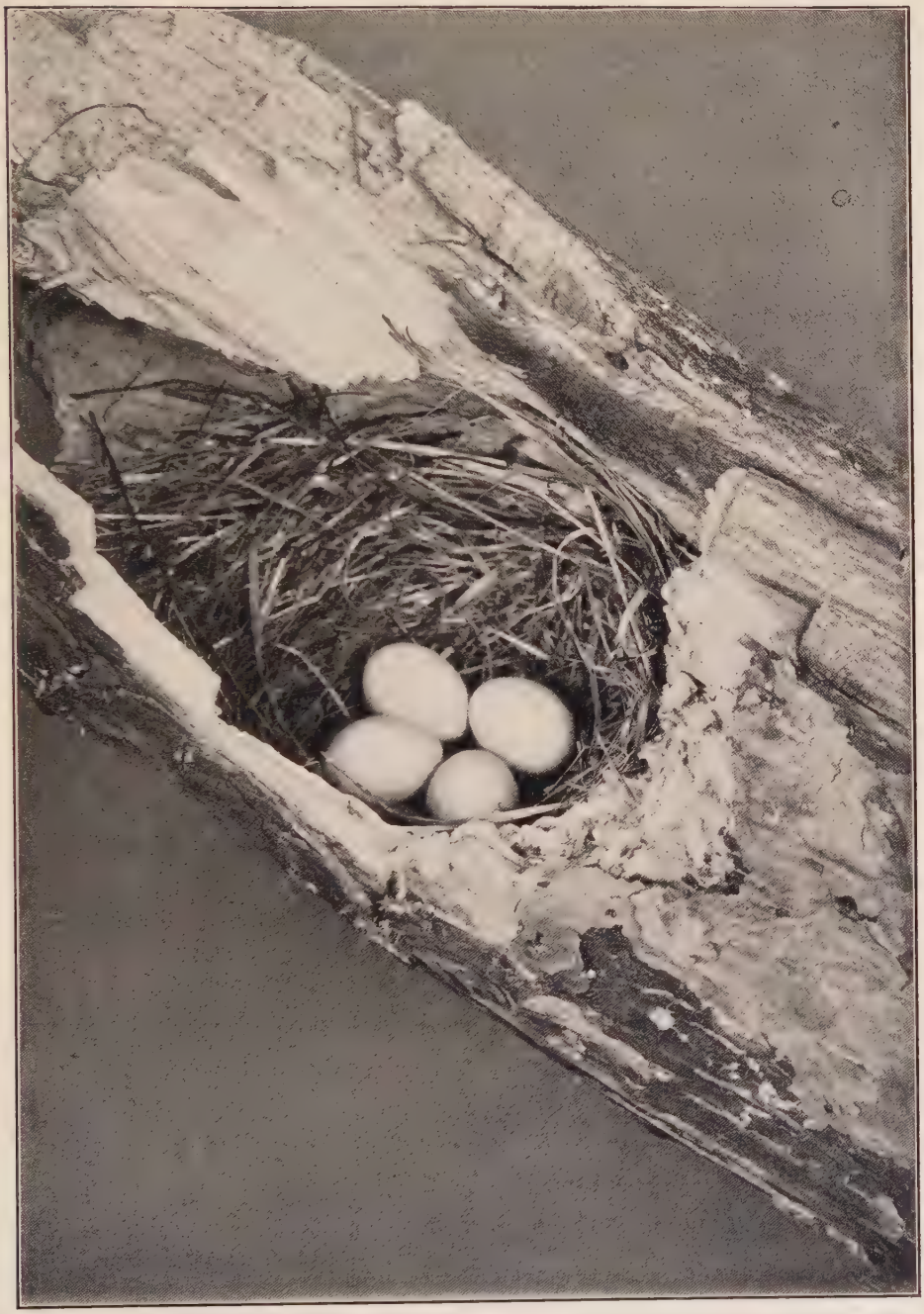
Adult ♂—Upper parts intense blue; under parts terra cotta, belly whitish.

Adult ♀—Grayish blue, sides and breast lighter. Length—7.01.

Immature ♂—Bird three months old, upper parts grayish blue, spotted with pale gray; wings and tail blue; upper part of breast terra cotta; the centre of each feather buffy white; lower part of breast and sides terra cotta; belly whitish.

Breeding Range—From the Gulf States northward. The nest is of grass, placed in a hole in a tree or in a bird-box. 3 to 6 pale blue, sometimes white, eggs are laid. Size—.84 × .62. See Fig. 1, Plate C.

When the song of the Bluebird is heard, we who love not the cold weather are glad, for we know that in a few weeks the frost will leave the ground and the pure white flower of the bloodroot will lift its leaf-encircled head from the damp, dead leaves of the year that has past. But that is not our only reason for gladness; we look on the bluebird as a friend, one that spends his summers near us, leaving only when the frosts of late November come to tell him that 'tis time to go south, as food is becoming scarce. He is my favourite bird; and while I am writing of



NEST AND EGGS OF BLUEBIRD IN THE BRANCH OF AN APPLE TREE

An opening was made so that the nest might be seen

him, a pet one, but three months old, is sitting on my paper, seeming to wonder what I am doing, and why I do not play with him. He nips my pencil, but I pay no attention to him ; then he tries to creep up my sleeve, and still I pay no attention ; so, disgusted, he flies off to search for ants or other small insects. After a time I raise my hand and call ; back he comes like a flash, and, hovering more like a large moth than a bird, he perches on my fingers, singing at the same time a soft little song that is his method of speech. Having a bird that is so thoroughly companionable makes me regard all bluebirds with the greatest possible affection.

Near New York the breeding season begins early in April ; two broods are reared during the season. The young remain in the nest until about fifteen days old. It is noticeable that their claws are exceedingly sharp ; this is, in all probability, that they may be able to climb out of the hole in which their nest is placed.

Chapter VII

SEMI-PENSILE, PENSILE OR HANGING NESTS

465. Acadian or Green-crested Flycatcher: Empidonax virescens (Vieill.)

Adult—Upper parts olive green; wings and tail dark brownish black; under parts greenish white on the breast to pale yellow on sides of belly; throat and belly white. Length—5.75.

Breeding Range—The Eastern States from Connecticut southward.

Davie, in speaking of the nest of the Acadian Flycatcher, says: "In the manner of attachment it resembles the nests of the vireos, being fastened by the rim, while the bottom is unsupported;" it is made of grasses, weeds, seeds, and shreds of bark, and is frequently suspended over running water. The eggs, numbering only 2 or 3, are buff, with spots and specks of reddish brown, chiefly round the larger end. Size—.74 × .54.

These birds are found mostly in the dense forest regions, where they breed early in June. The nests are often found in the witch-hazel bush.

498. Red-winged Blackbird: Agelaius phœniceus (Linn.)

Eggs pale greenish blue or pearly white with either blotches or scrawls of dark purplish brown, faint cloudy blotches of the same colour, and spots of black.

See Page 77, Chapter IV.

498b. Florida Redwing: A. p. bryanti Ridgw.

Egg similar to those of the preceding species.

See Page 78, Chapter IV.

NEST OF ORCHARD ORIOLE

YOUNG ORCHARD ORIOLES THE DAY OF LEAVING THEIR NEST

506. Orchard Oriole: Icterus spurius (Linn.)

Adult ♂—Head and upper part of back black; lower part of back and under parts rich chestnut brown; wings and tail nearly black, with light edges to the longer feathers.

Adult ♀—Head and back olive green; wings nearly black; breast and under parts dull greenish yellow. Length—7.32.

Immature ♂—Much the same as adult ♀ during first year; the throat becomes black, and the chestnut shows during the second year.

Breeding Range—From the Gulf States northward to the southern parts of New England.

The nest is a wonderful basket-like structure of fresh grass, carefully and delicately woven, the upper edge being securely laced to small branches and leaves. Though usually placed in fruit trees, it may be found in almost any kind of tree, and at almost any distance from the ground up to about twenty-five feet. The eggs are pearly or bluish white with irregular deep brown and lilac gray lines and blotches. Number of eggs, 3 to 5. Size—.80×.58. See Fig. 5, Plate C.

To find an Orchard Oriole's nest requires more than ordinarily keen eyes, especially when newly built, as the fresh grass so nearly matches the surrounding leaves; when the grass dies and becomes yellow, it is far more easily seen, but by that time the young are probably hatched. The sides of the nest are so thin that in some cases the contents may readily be seen from below. An apple or pear orchard is by far the most likely place in which to find the nest, but it may be found in a cedar or almost any kind of tree, frequently within a short distance of a house.

The nesting season begins towards the end of May.

507. Baltimore Oriole: Icterus galbula (Linn.)

Adult ♂—Head, throat, and upper part of back black; breast, belly, and rump brilliant orange, sometimes reddish orange; wings black with white bar; outer tail feathers orange with black base; middle tail feathers black to the tips.

Adult ♀—Greenish or grayish orange in general appearance; head, back, and sometimes the throat slightly mottled with black; breast lighter grayish orange. Length—7.53.

The young resemble the adult ♀ but have no black mottling.

Breeding Range—From the Gulf States northward.

The nest is so peculiar that it cannot be mistaken. It is pensile or hanging, about six or seven inches deep, and is built of fine grasses, plant fibres, downy seeds, wool, cotton string, hairs, and sometimes strips of cloth; these are woven together so as to form a perfect bag, the sides of which are very thin. The inside is lined with fine grass, hair, and wool. The nest is securely laced to small twigs, usually at the end of a branch. From 4 to 6 eggs are laid. They are very pale gray, drab, or almost white, with a few strange cabalistic scroll-like lines and blotches of a dark purplish brown; some of these lines are so light in colour that they are scarcely perceptible. Size—.92 × .62. See Fig. 10, Plate C.

Although the Baltimore Oriole's nest is so easy to find, being generally placed far from the ground, at the extreme end of an overhanging branch of an elm tree, it is difficult to see whether it contains eggs or young. Two nests are sometimes found in a single tree. The elm seems to be preferred to all others, although frequently the black-walnut, maple, apple, weeping-willow, or almost any other tree may be selected. The most likely place to find the nest is in the large trees along the roadside, near houses.

The young may be reared without much difficulty, and I know of few other birds that better repay the trouble of bringing up; they are thoroughly sociable, and are a constant source of amusement and interest; seldom quiet, they delight in finding pieces of thread or string, which they weave and unweave in a truly wonderful manner. (I have some reason to think that the male birds do not weave.) They become so tame that even when allowed to fly out of doors they will return to their cage.

The nesting season begins about the third week in May.

623. Black-whiskered Vireo: Vireo calidris barbatulus (Cab.)

Adult—"Similar to the next species, but somewhat duller above, and with a fuscous streak on either side of the throat." (Chapman.)

Breeding Range—The southern part of Florida.

PENDANT NEST OF THE BALTIMORE ORIOLE.

The nest is a cup-like structure, hung at the fork of a branch; it is made of shreds of bark, grasses, lichen, and spiders' web, with the lining of cotton-like fibre. The eggs, numbering 3 to 4, are pinkish white, with fine spots and specks of brown. Size—.78 × .55.

624. Red-eyed Vireo: Vireo olivaceus (Linn.)

Adult—Upper parts olive green; a dark line on either side of crown; a whitish line over the eye; under parts white; the iris is red. Length—6.23.

Breeding Range—From the Gulf States northward.

The nest is made of grasses, thin strips of bark, lichen, spiders' web, and plant fibre, with the lining of grass and sometimes hair. It is cup-shaped, the rim being securely laced to the forked twigs; from four to forty-five feet from the ground. 3 to 5 eggs are laid; they are white with a few dark specks. Size—.85 × .56.

This is the most common of our vireos, being found throughout the woodland. The nests vary greatly in appearance, some being roughly made of coarse grass and bark, while others are beautifully decorated with white web, or some sort of white silky material, which is fastened all over the outside, for what purpose it is difficult to imagine. Almost any sort of tree or sapling is chosen, but the oak has the preference in most places; apple trees are occasionally used.

The breeding season begins towards the end of May; probably two broods are reared.

626. Philadelphia Vireo: Vireo philadelphicus (Cass.)

Adult—Upper parts olive green, more grayish on the crown; a whitish line over the eye; under parts pale lemon yellow, somewhat tinged with green. Length—4.75.

Breeding Range—Northern New England northward. "It has been found in the breeding season at Franconia and Dixville Notch, in New Hampshire, and in the region about Lake Umbagog; in western Maine, it is not uncommon during the entire summer." (Brewster.)

The nest and eggs resemble those of the red-eyed vireo, probably the first authentic set of eggs having been found by Mr. Ernest E. Thompson in Manitoba.

627. Warbling Vireo: Vireo gilvus (Vieill.)

Adult—Upper parts olive green or grayish green; under parts white, slightly tinged with yellow; line over the eye indistinct grayish white. Length—5.80.

Breeding Range—Throughout the Eastern States.

The nest is similar to that of the red-eyed vireo; the eggs white, spotted and sometimes blotched with reddish brown. Size—.75 × .52.

This bird is difficult to distinguish from the red-eyed vireo; it is somewhat smaller, the line over the eye less distinct and the song totally different, being more prolonged and melodious.

The breeding season begins towards the end of May.

628. Yellow-throated Vireo: Vireo flavifrons Vieill.

Adult—Upper parts yellowish olive; rump gray; ring around the eye yellow; breast light lemon yellow; belly grayish white; distinct white bars on wings. Length—5.95.

Breeding Range—Throughout the Eastern States.

The nest resembles a good example of the red-eyed vireo's, from five to forty feet from the ground.

Eggs white with a tinge of pink; rather more thickly spotted than those of the red-eyed vireo. Size—.83 × .61.

The bright yellow breast serves to distinguish this bird from other members of the vireo family; the breeding habits are not very different from those of the red-eyed vireo, except that nesting begins rather later.

629. Blue-headed, or Solitary Vireo: Vireo solitarius (Wils.)

Adult—Upper parts greenish; head blue gray, with conspicuous white ring round the eye, and white between eye and bill; under parts whitish, tinged on the sides with greenish yellow; wings have two white bars. Length—5.61.

Breeding Range—Chiefly in the northern part of the United States, and in the higher parts of the Alleghanies further south; rarely in northern New Jersey.

NEST OF RED-EYED VIREO WITH YOUNG BIRD ABOUT TO LEAVE

A FAIR EXAMPLE OF THE RED-EYED VIREO'S NEST

BASKET-SHAPED NEST OF THE WARBLING VIREO

The nest is of the regular vireo type. The eggs, 3 to 4 in number, are white with few dark spots, sometimes in a wreath-like cluster around the larger end. Size—.81 × .62.

These birds are inhabitants of the woods, though they sometimes breed in apple trees near houses. A pair bred in an apple tree that almost touched a house, and the young could be seen from my window, as they left the nest; this was in South Orange, New Jersey.

629c. Mountain Solitary Vireo: V. s. alticola Brewst.

Resembles the preceding, but is larger, and more gray than green on the back.

Breeding Range—Higher portions of the Alleghanies in North and South Carolina.

The nest is much like that of other vireos, but larger, and having in addition to the usual materials pieces of decayed wood fastened on the outside with spiders' or caterpillars' webs. 3 to 4 eggs are laid; they are white, with fine spots and dots of brown. Size—.80 ×. 58.

631. White-eyed Vireo: Vireo noveboracensis (Gmel.)

Adult—Upper parts greenish; two wing bars of yellowish white; under parts whitish, the breast and sides being tinged with yellow; iris white until after the breeding season; yellow eye-ring and in front of eye. Length—5.27.

Breeding Range—From Maine southward.

The nest is much deeper than most of the vireo nests, being about two inches deep inside, and three and a half to four and a half deep outside. It is made of moss, lichen, plant fibre, grass, with chips of wood (taken often from a woodpecker's excavation) fastened on the outside; the lining is of fine grass. It is sometimes attached to the forked branch by numerous threads of caterpillar silk. The eggs are white, with either very few or many small spots or specks of dark purplish brown. 3 to 5 are laid. Size—.76 × .56. See Fig. 6, Plate C.

These little songsters may be found nesting in the damp thickets, the nest being hung within a few feet of the ground; the birds sit very close and will not readily desert their nests. In taking the accompanying photograph I was able to arrange and

focus the camera and give a time exposure without disturbing the bird, even though the camera was within three feet of the nest. They become highly indignant if the nest is touched, coming almost to one's hand while they alternately scold and sing. The irregular song, which is delivered with great energy, is particularly sweet and of surprising volume for so small a bird.

The breeding season in the neighbourhood of New York begins about the third week in May.

631a. Key West Vireo: V. n. maynardi (Brewst.)

Closely resembling the preceding, it is rather smaller and lighter in colour.

Range—Southern Florida.

Nest and eggs described as being identical with those of the white-eyed vireo.

648. Parula, or Blue yellow-back Warbler: Compsothlypis americana (Linn.)

Adult ♂—Upper parts gray blue, with a yellowish green patch in the middle of the back; throat and breast yellow, with a dark brown or black patch; sides rufous; belly white.

Adult ♀—Very similar, sometimes lacking the rufous colour on the sides. Length—4.73.

Breeding Range—Locally throughout the Eastern States where the usnea moss is found.

The nest is placed within tufts of hanging moss (usnea); it is perhaps more strictly speaking globular than pensile, as the entrance is often at the side; it is usually at a distance of from "three to forty feet" from the ground, and may be found in trees or bushes. The eggs, 4 to 5 in number, are white, speckled with various shades of light reddish brown and lilac, chiefly at the larger end. Size—.67 × .49.

It is in the swampy woods where on the trees and bushes the grey moss hangs in graceful festoons that the Parula makes his summer home; the nest being completed towards the end of May.

748. Golden-crowned Kinglet: Regulus satrapa Licht.

Adult ♂—Upper parts olive green, crown orange bordered by black; an undefined whitish line over the eye; under parts whitish.

HANGING NEST OF THE WHITE-EYED VIREO.

Adult ♀.—Has yellow instead of orange on the crown. Length—4.07.

Breeding Range—The elevated and more northern part of the United States.

The nests seem to vary greatly, both in form, method of support, and in the materials used in their construction. Minot describes a nest he found in the White Mountains as being "globular, with an entrance in the upper part; it was composed of hanging moss, ornamented with bits of dead leaves, and lined chiefly with feathers." Three nests found by Mr. Brewster* were in brief as follows: First, within two feet of the top of a spruce tree sixty feet from the ground, suspended among the fine pendent twigs, resembling the Baltimore oriole's nest in its position; second, twenty feet below the top of a large spruce, in a cluster of stiff twigs, built something after the manner of the vireo's nest, but supported on all sides by radiating twigs; third, in a spruce tree, five feet from the end of the branch, the nest suspended from above and resting on a platform of sticks. It is difficult to know whether these birds habitually build a pensile or a globular nest, or a combination of the two. The material used in constructing these nests is green moss, lichen, usnea (moss), lined with strips of bark, fine roots, and feathers. The eggs, white to dark cream colour, with small dots or blotches of light brown and pale lavender, vary in number from 6 to 10. Size—.56 × .44. See Fig. 21, Plate C.

749. Ruby-crowned Kinglet: Regulus calendula (Linn.)

Adult ♂.—Upper parts olive green; middle of crown scarlet (partly concealed); under parts whitish; wing has two whitish bars. Length—4.41.

Breeding Range—The higher mountains, and from the northern border of the United States northward.

The nest, usually pensile or semi-pensile, is placed at from twelve to thirty feet from the ground, and is made of mosses, strips of soft bark, and feathers. The eggs, 5 to 9 in number, are whitish, with spots of light brown, chiefly at the larger end. Size—.59 × .43.

The descriptions of the nests of these Kinglets are taken (in brief) mainly from Davie's "Nests and Eggs of North American Birds."

* "The Auk," v., pp. 337–344.

Chapter VIII

OPEN NESTS IN TREES, BUSHES, AND VINES

Part I.—LARGE NESTS IN TREES

327. Swallow-tailed Kite: Elanoides forficatus (Linn.)

Adult—Upper parts blue black, except the head, which, together with the under parts, is white ; tail deeply forked. Length —24.00.

Breeding Range—The Southern States, northward along the Mississippi Valley to Illinois ; "casually east to Pennsylvania and southern New England."

The nest, composed of sticks, and sometimes green moss, is placed on the topmost branches of a tall tree, usually near watercourses ; it is a bulky structure. "Outwardly it measures eighteen inches in diameter, depth twelve inches." (Davie.) 2 to 4 eggs are laid ; they are white tinged with green or yellow, with specks, spots, and blotches of various shades of brown and chestnut. Size—1.85 × 1.46.

These birds are said to fight desperately when their nests are threatened, and abandon the nest if it be disturbed. In the southern portion of their range the breeding season probably begins early in April.

328. White-tailed Kite: Elanus leucurus (Vieill.)

Adult—Upper parts ashy gray ; whiter on the head ; wing coverts black ; tail and under parts white. Length—15.50.

Breeding Range—Probably South Carolina, southern Illinois, and Florida.

The nest is placed at the topmost branch of a tree, near water ; it is a shallow structure of sticks, thinly lined with bark and sometimes straw. 3 to 5 eggs are laid (Davie) ; they are "dull creamy white, thickly blotched, dotted, and tinged with

deep chestnut, in some cases almost completely covering the whole ground." Size—1.71 × 1.31. In South Carolina the nesting season begins early in March.

329. Mississippi Kite: Ictinia mississippiensis (Wils.)

Adult—Upper parts: Head gray; back slate colour; tail black; under parts gray. Length—14.00.

Breeding Range—From South Carolina, southward; casually from Pennsylvania, Wisconsin, and Iowa in the interior (A. O. U. check-list).

The nests are built in trees at from twenty to fifty feet from the ground; they are made of dry and green twigs, leaves, and moss, and are rather bulky, the walls being very thick. The eggs, numbering from 2 to 3, are dull white or slightly tinged with green or blue. Size—1.64 × 1.28.

The breeding season probably begins about the end of April or early in May.

330. Everglade Kite: Rostrhamus sociabilis (Vieill.)

Eggs dusky white or brownish, with blotches and spots of reddish brown.

See Page 77, Chapter IV.

332. Sharp-shinned Hawk: Accipiter velox (Wils.)

Adult—Upper parts bluish slate colour; tail, which is square, is gray, barred with blackish brown; under parts barred with white, buff, and rusty brown. Length—♂, 11.25; ♀, 13.50.

Breeding Range—Throughout the Eastern States.

The nest of sticks and twigs is placed in a crotch, or against the tree trunk, at a height of from ten to sixty feet. The tree selected varies according to locality; in some places pines are most often chosen, but oak, birch, or dead trees are also used; the nest is rarely in cavities or on ledges of rock. The eggs, numbering from 3 to 5 or 6, are white, tinged with green, blue, or gray, "sometimes unmarked," but usually spotted, blotched, clouded, and streaked with various shades of browns, rust colour, chocolate, and lilac. Size—1.50 × 1.16.

The nesting season begins from early in April to early in June, according to locality.

333. Cooper's Hawk: Accipiter cooperii (Bonap.)

Adult—Resembling the sharp-shinned hawk ; the dark crown, rounded tail, and superior size, are the most marked differences. Length—♂, 15.50 ; ♀, 19.00.

Breeding Range—Throughout the Eastern States.

The nest is large and bulky ; it is made of sticks. Often a deserted crow's or hawk's nest is used, otherwise the nest is placed near the top of a tree, generally in a crotch. The eggs number from 4 to 6 ; they are white, more or less tinged with green or blue, either immaculate or with light reddish-brown spots. Size—1.97 × 1.50. See Fig. 4, Plate A.

This is one of the many so-called chicken hawks, and it deserves the name far better than many of the other hawks, as it destroys a great number of poultry.

The breeding season, near New York, begins about the end of April, and in the South about the first of April.

334. American Goshawk: Accipiter atricapillus (Wils.)

Adult—Upper parts slate colour ; head much darker ; line over eye white ; under parts whitish, with broken bars of dark gray.

Immature—Upper parts dark brown ; under parts buff, streaked with very dark grayish brown. Length—♂, 22.00 ; ♀, 24.00.

Breeding Range—From the more northern parts of the United States northward.

The nest is made of sticks, lined with coarse pieces of bark and grass ; it is placed in tall trees, usually evergreens. The eggs, numbering from 2 to 5, are whitish, sometimes tinged with blue or green, either unmarked or with light brownish spots. Size—2.32 × 1.75.

This bird resembles the European goshawk, which was used to catch hares and rabbits in the time when falconry was so much the fashion.

337. Red-tailed Hawk: Buteo borealis (Gmel.)

Adult—Upper parts dark brown ; the feathers marked with rust colour and buff ; tail bright chestnut, with a dark band and whitish tip. Under parts: Breast buffy white, with heavy streaks on the upper part, and few or none on the lower part ; belly whitish ; sides streaked with brown.

Immature—The tail brown instead of chestnut. Length—♂, 20.00 ; ♀, 23.00.

Breeding Range—The Eastern States.

The nest, which is very large and shallow, is made of sticks, moss, and grass, and sometimes feathers ; it is placed against the trunk, usually at a considerable height. Pine trees situated in the dense forests are most often used. 2 to 3, and sometimes 4, eggs are laid ; they are whitish, either unmarked or heavily blotched with shades of reddish and yellowish brown and lilac, occasionally the markings confined to the larger end. Size—2.36 × 1.80.

These large and handsome hawks usually build their own nests every year ; but in some instances they have been known to use the old nests of either hawks or crows.

The breeding season, varying according to locality, begins in April or May ; in the neighbourhood of New York nests may be found early in April.

337d. Harlan's Hawk: Buteo borealis harlani (Aud.)

Breeding Range—"The Gulf States and Lower Mississippi Valley, north to Pennsylvania, Iowa, and Kansas." (Davie.)

A sub-species of the red-tailed hawk, being somewhat smaller, darker in colour on the back, belly spotted, and the tail mottled with rusty red, black, gray, and whitish.

The nest is placed in a large tree; it is composed of sticks, lined with leaves and moss.

2 eggs mentioned by Davie measure 2.40 × 1.81 and 2.45 × 1.83; "their ground colour is bluish white, blotched with brown; in one somewhat sparingly over the small end, and in the other specimen sprinkled over the entire surface."

339. Red-shouldered Hawk: Buteo lineatus (Gmel.)

Adult—Upper parts dark brown, slightly marked with rusty brown; shoulders rufous; tail very dark, with white bars; under parts reddish buff, with very fine white bars; in the immature birds the under parts are white, spotted with brownish gray. Length—♂, 18.30; ♀, 20.35.

Breeding Range—Throughout the Eastern States.

The nest is much like that of the red-tailed hawk. The eggs are very similar, but smaller and usually more heavily marked, but they vary greatly, some being very faintly washed, while in others the ground colour is almost hidden by the heavy splotches of reddish brown. Size—2.15 × 1.65.

The Red-shouldered Hawk is the most common of the larger hawks, and may be found frequenting the damp woods and the vicinity of ponds.

The breeding season commences in April.

339a. Florida Red-shouldered Hawk: B. l. alleni Ridgw.

Breeding Range—Texas, Florida, and on the Atlantic coast to South Carolina.

A southern sub-species of the red-shouldered hawk; it is smaller, the head is lighter, and the under parts are not so distinctly barred.

The nest is placed in large trees, and is made of twigs, green leaves, and Spanish moss. The eggs resemble those of the preceding species. This is a very common bird in Florida, being found throughout the pine woods and particularly near the rivers and in the cypress swamps, where it may frequently be seen perched on the lower branch of a tree, watching for its prey. It is a remarkably tame bird, and will seize any small rodent or other prey without the slightest regard for the onlooker. I am inclined to believe this southern variety destroys far more birds than does the more northern red-shouldered hawk.

The breeding season begins in March.

342. Swainson's Hawk: Buteo swainsoni Bonap.

Adult ♂—Upper parts dark brown; feathers margined with rufous; forehead nearly white; under parts and throat white;

breast reddish or rufous; belly creamy white, spotted with grayish brown.

Adult ♀—Has the breast and back dark brown. Length—♂, 20.00.

Breeding Range—West of the Mississippi. It has been found further east, and New York and New England records are not very rare, but I can find no mention of its breeding in the Eastern States. It occurs in the West at times in vast numbers.

343. Broad-winged Hawk: Buteo latissimus (Wils.)

Adult—Upper parts brownish; the feathers edged with grayish buff; tail dark, with two bars, and the tip light gray; under parts white, barred with brownish; the throat is streaked very heavily on either side. Length—♂, 15.89.

Breeding Range—Throughout the Eastern States.

The nest is a rude structure of twigs, moss, and sometimes feathers, placed in a tree at a height of from ten feet upwards. 2 to 4 eggs are laid; they are whitish, marked with blotches and spots of yellowish and purplish brown, or with dull lilac. Size—1.90 × 1.54.

In common with so many hawks, this bird often makes use of an abandoned crow's nest.

The breeding season begins early in April. The male assists in the duties of incubation.

344. Short-tailed Hawk: Buteo brachyurus Vieill.

Adult—"Upper parts slaty gray or fuscous brown; forehead whitish; tail barred with black and narrowly tipped with white, its under surface grayish; sides and breast with some rufous-brown markings; rest of under parts pure white." Length—17.00.

Breeding Range—Florida.

But little is known of the breeding habits of this hawk, which is rare in the United States. The eggs are described as dull white or bluish, blotched and spotted at the larger end with reddish brown. Size—2.17 × 1.61.

352. Bald Eagle: Haliaetus leucocephalus (Linn.)

Adult—The entire head, neck, and tail white ; other parts dark brownish. Length—♂, 32.85 ; ♀, 35.50.
Breeding Range—Throughout North America.

The nest is a very large structure of sticks, sometimes "partly composed of sods," and more or less lined with grass ; it is placed in large trees (in parts of Florida the pine is used almost exclusively), in mangroves, and rarely on rocks. The eggs, 2 in number, are white or whitish. Size—2.85 × 2.20.

The Bald Eagle found in Florida is much smaller than the northern bird ; its eggs also are somewhat smaller ; then, again, the Florida bird feeds to a great extent on carrion, and may be often seen feeding with large numbers of the turkey vultures. Some writers say that on the approach of the eagle the turkey vultures disperse. I have, however, seen them feeding together in comparative harmony.

The breeding season begins very early. In Florida eggs may be found in January.

357. Pigeon Hawk: Falco columbarius Linn.

Eggs light cinnamon or creamy white, blotched, clouded, and spotted with chestnut and brown.

See Page 82, Chapter V.

362. Audubon's Caracara: Polyborus cherivay (Jacq.)

Adult—Crown and back black ; upper back and nape slightly barred. Under parts : Throat and breast buff, the breast finely barred with black ; belly black ; feathers on crown slightly elongated ; face bare. Length—23.00.
Breeding Range—Southern Florida and Texas.

The nests, which are not very bulky, are made of sticks and grass, either with or without lining, and placed in trees, amongst others the cabbage palmetto, and in bushes, rarely in cliffs. 2 to 3 eggs are laid ; they are reddish or yellowish buff with small and large markings and cloudings of rich purplish brown, chestnut, and reddish brown. Size—2.40 × 1.70.

These beautiful birds are fairly abundant in southern Florida ; and though they sometimes come near the smaller towns, it is only when there is some special attraction, such as a slaughter-house, that they assemble with the flocks of turkey vultures. More often they frequent the somewhat open country, away from human habitation.

The breeding season begins in early March.

364. American Osprey; Fish Hawk: Pandion haliaëtus carolinensis (Gmel.)

Adult ♂—Upper parts grayish brown, with more or less white markings on top of head ; under parts white, sometimes marked with dark gray or brown. Length—23.10.

Adult ♀—Has the breast invariably spotted.

Breeding Range—Throughout North America, chiefly along the sea-coast.

The nest, which is very large, is made of sticks, sea-weed, and various other materials, depending on locality. It is placed in trees, either dead or alive, on stumps, and on almost any available place, and is used for succeeding years. Several nests are usually to be found near together. Seldom more than 3 eggs are laid, 4 being an uncommon number. They vary very greatly both in their ground colour and markings ; in some the dark reddish-brown blotches completely cover the ground colour, while in others the whitish ground colour is almost immaculate ; usually the markings are fairly heavy. Size—2.40 × 1.75. See Fig. 2, Plate A.

366. American Long-eared Owl: Asio wilsonianus (Less.)

Adult—Upper parts dark brown, finely mottled with white, with some buff showing ; under parts white, buff, and dark grayish brown, streaked on the breast and barred on the belly. Ear tufts about one inch long. Length—14.80.

Breeding Range—Throughout the United States.

The nest is seldom made by the birds themselves ; usually a crow's or squirrel's nest is used, some small work in the way of repairing being done, and a few feathers and leaves added. 3 to 6 white eggs are laid. Size—1.60 × 1.32.

The breeding season begins early in April. The period of incubation occupies about three weeks.

368. Barred Owl: Syrnium nebulosum (Forst.)

Eggs white.

See Page 97, Chapter VI.

368a. Florida Barred Owl: S. n. alleni Ridgw.

Eggs white.

See Page 98, Chapter VI.

372. Saw-whet or Acadian Owl: Nyctala acadica (Gmel.)

Eggs white.

See Page 98, Chapter VI.

375. Great Horned Owl: Bubo virginianus (Gmel.)

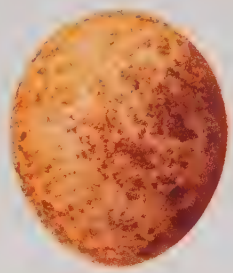
Adult—Upper parts mottled buff brown and black ; under parts same colours, barred ; ear-tufts two inches long ; feet and legs feathered. Length—♂, 22.00.
Breeding Range—Throughout the Eastern States.

The nest is a large structure of sticks, leaves, bark, and feathers, placed usually in a coniferous tree ; very often a squirrel's, crow's, or hawk's nest is used. Sometimes the nest is in a hole in a tree, and rarely amongst rocks. 2 to 3 (Minot gives the limit as 4) white eggs are laid. Size—2.25 × 1.85.

These large feathered prowlers of the night roam through the darkened forests in search of birds and small animals, upon which they prey ; neither do they scorn to enter the barn-yard, and many a chicken is taken to satisfy their own appetite or to feed their hungry owlets. Their dismal hooting is one of the most uncanny sounds heard during the night ; to thoroughly appreciate it one should be alone in the woods, when it brings up by no means pleasing thoughts.

The nesting season begins towards the end of February.

1



3

4

2

5

PLATE A.—Common Eggs.

1. Turkey Vulture.
2. American Osprey.
3. American Sparrow Hawk.
4. Cooper's Hawk
5. Chuck-will's-widow.

CROW'S NEST WITH THE YOUNG NEARLY READY TO LEAVE

YOUNG CROW A FEW DAYS AFTER LEAVING ITS NEST

The light-coloured eye shows that the bird is young

488. American Crow: Corvus americanus Aud.

Adult—Entirely blue black. Length—19.30.
Breeding Range—Throughout the United States.

The nest is variable in size, usually very bulky ; it is made of sticks, grape-vine and cedar bark, dried dung, sods, horse hair, moss, grass, etc. It is placed in trees, or even tall bushes, from fifteen feet up. The eggs, numbering from 4 to 6 or 7, are pale bluish green or nearly white, with few or many small light brownish markings. Size—1.65 × 1.15.

The Common Crow is so well known that but little need be said of it here. The nesting season begins early in April ; probably more than one brood is reared. The nest is usually in the woods, and occasionally along hedges.

488a. Florida Crow: C. a. floridanus Baird.

Very similar to the preceding species. Nesting habits and eggs identical.

Breeding Range—Florida.

490. Fish Crow: Corvus ossifragus Wils.

Adult—Entirely blue black. Length—16.00.
Breeding Range—The Gulf coast, and the Atlantic coast from Long Island southward.

The nest and eggs are very similar to those of the common crow, the eggs being somewhat smaller. Size—1.50 × 1.06.

This crow lives near the sea-shore or along rivers, never very far from the sea-coast. It builds most often in cedars or other evergreens, many nests being found near together. It may be distinguished from the common crow by the extreme harshness of its voice.

The breeding season begins in May.

Part II.—NESTS IN TREES, BUSHES, OR VINES

314. White-crowned Pigeon: Columba leucocephala Linn.

Adult ♂—Dark slate colour, with iridescent feathers on the neck; front of crown pure white.

Adult ♀—Dull slate colour; wings tinged with brownish; the crown dull white. Length—13.50.

Breeding Range—The keys of southern Florida, including Key West.

The nest is placed in bushes or trees, and is a more ambitious structure than is usual with pigeons; it is made of sticks, without lining. 2 pure white eggs are laid. Size—1.41 × 1.02.

This pigeon is easily recognised by its dark colour and white forehead; throughout the West Indies it is fairly abundant, and is used greatly as an article of food, the flesh being considered a luxury, especially during the pimento (allspice) season. These birds are usually gregarious during the breeding season, many nests being built in a single tree.

315. Passenger Pigeon: Ectopistes migratorius (Linn.)

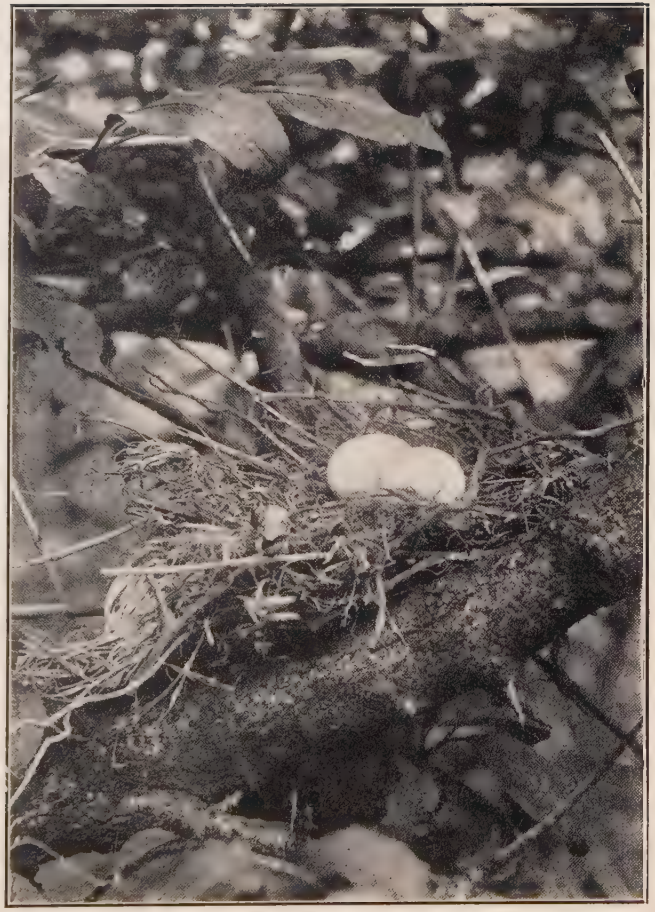
Adult ♂—Upper parts slate colour, tinged in parts with brown, with iridescent feathers on the neck; under parts purplish or pinkish buff, shading into white on the belly; tail long and rather pointed.

Adult ♀—Upper parts more brownish; breast more grayish brown, and belly dull white. Length—16.29.

Breeding Range—Very local, probably "from northern Maine to northern Minnesota." Perhaps now more common in Michigan and the Red River country than elsewhere.

The nest is loosely made of sticks and placed in a tree. 1 or 2 white eggs are laid. Size—1.48 × 1.04.

These pigeons, once so numerous that they were netted in thousands, are now nearly extinct, but few having been seen during the past five years.



NEST AND EGGS OF THE CAROLINA DOVE

NEST OF BLUE JAY IN AN APPLE TREE

316. Mourning Dove; Carolina Dove: Zenaidura macroura (Linn.)

Adult ♂—Upper parts purplish brown ; forehead pinkish buff ; a small black patch on cheek ; neck with iridescent feathers ; under parts pinkish or light purplish buff to creamy buff on the belly ; tail pointed.

Adult ♀—Very similar ; less brilliant. Length—11.85.

Breeding Range—Throughout the Eastern States to Maine.

The nest is a slight platform of small sticks, loosely placed in a bush or tree, usually not more than twelve feet from the ground ; it is sometimes found on a stump, often on a deserted nest of a thrush, and in some parts of the country it is situated on the ground. 2 white eggs are laid. Size—1.12 × .82.

This is the commonest of the doves found in the Eastern States. It begins breeding in the early spring, and rears two or three or even more broods. In Princeton, New Jersey, nests containing eggs have been found as early as April 5th.

317. Zenaida Dove: Zenaida zenaida (Bonap.)

Adult—Much like the mourning dove ; the tail is square, and the under parts darker. Length—10.00.

Breeding Range—The Florida Keys and southward.

Like the nests of other doves, it is a rude platform of sticks if placed in bushes ; when placed on the ground, a more compact structure of leaves and grass is made. The eggs, 1 to 2, are white. Size—1.19 × .94.

320. Ground Dove: Columbigallina passerina terrestris Chapm.

Eggs white.

See Page 56, Chapter II.

322. Quail Dove: Geotrygon martinica (Gmel.)

Adult—Upper parts reddish or light chestnut buff ; a whitish line below the eye ; under parts pinkish or purplish buff. Length —11.00.

Breeding Range—The Florida Keys and southward.

The nest is of sticks placed on the branch of a tree or bush. 2 buffy-white eggs are laid. Size—1.22 × .94.

This is really a West Indian species, but it has been found in Key West and other Florida keys. In habits it is largely terrestrial, though not as much so as the ground dove. In the West Indies it is found almost exclusively in the thickly wooded regions.

382. Carolina Paroquet: Conurus carolinensis (Linn.)

Adult—Forehead and cheeks orange; rest of head and neck light yellow; band of wing orange; other parts grass green. Length—12.50.

Breeding Range—Somewhat uncertain ; probably the uninhabited part of Florida is the only breeding place east of the Mississippi.

There is a great difference of opinion in regard to the nest of this bird; according to some writers it is in a hole in a tree, and others say it is something like the nest of the Carolina dove, being a slight structure placed in the branches of a cypress. The eggs are white; 2 in number. Size—1.44 × 1.12.

The Carolina Paroquet was formerly very abundant in Florida, and ranged northward as far as the Great Lakes ; now it is nearly extinct, being restricted to the southern part of Florida and to some few places further west.

386. Mangrove Cuckoo: Coccyzus minor (Gmel.)

Adult—Upper parts brownish fawn colour ; the tail has the outer feathers black and white; inner feathers brownish fawn; under parts buff. Length—12.50.

Breeding Range—The Florida Keys, Florida, and Louisiana.

The nest is a rude platform of sticks in the lower branches of trees and bushes. 3 to 4 greenish-blue eggs are laid.

386a. Maynard's Cuckoo: C. m. maynardi (Ridgw.)

Somewhat smaller than the mangrove cuckoo and lighter in colour, particularly on the breast.

Range—The Florida Keys.

Nest and eggs unknown.

YOUNG KINGBIRDS, DAY OF LEAVING THEIR NEST

387. Yellow-billed Cuckoo: Coccyzus americanus (Linn.)

Adult—Upper parts drab; wings mostly rufous; under parts whitish; outer tail feathers black and white; upper mandible black; lower one yellow except at tip, which is black. Length—12.20.

Breeding Range—Throughout the Eastern States.

The nests vary greatly both in size and construction; some are little more than a mere platform of sticks, with a leaf or two for lining, while others are fairly large nests, well lined with dry ferns, leaves, catkins, and skeleton leaves; they are always shallow and ragged. The usual situation is in a small tree, bush, or briar; of the trees I think the oak seems to be preferred, in some localities particularly. 2 to 5 very pale greenish-blue eggs are laid; they have no polish. Size—1.15 × .84.

That so dainty and trim a bird as the Yellow-billed Cuckoo appears to be should have such a slovenly nest is always a cause of surprise, but that the nest and its surroundings should be kept in such disorder and filth is still more extraordinary.

The young when hatched are entirely naked. In a few days blue pin-feathers appear; these remain in their envelopes until the bird is completely covered. The day before the young leave their nest they present a remarkable appearance, more like porcupines than birds, as all the pin-feathers are long and sharply pointed; then comes the transformation, and in twenty-four hours the bird possesses a fine coat of beautiful soft feathers, with no pin-feathers visible; the tail is then about one inch and a half long. With the exception of the bill, which is blue, the young resemble the parent birds in colour. The period of incubation is about fourteen days. Eggs may be found from early June until about the first week in August. The eggs are in all probability not laid on consecutive days—how long the interval, is somewhat uncertain.

388. Black-billed Cuckoo: Coccyzus erythrophthalmus (Wils.)

Adult—Upper parts drab; tail the same colour, with white tips; under parts pearly white; bill black. Length—11.83.

Breeding Range—Throughout the Eastern States.

The nest is usually larger than that of the preceding species and is less ragged; it is often placed at a greater height from the ground; the material used is about the same. 2 to 5, very rarely 7, greenish-blue eggs are laid (it is probable that where sets of 7 are found they were laid by two birds); they are rather darker than those of the yellow-billed cuckoo, and are without any gloss. Size—1.14 × .80.

The Black-billed Cuckoo may be identified by its black bill, and by the fact that the tail is the same colour as the back and is tipped with white. The nesting habits of this and the preceding species are very similar. The black-billed commences laying about two weeks earlier. Both birds will desert their nest upon small provocation, and will not as a rule allow of a near approach while sitting. In exceptional cases cuckoo's (both yellow and black-billed) eggs are found in the nests of other birds.

There is some doubt as to whether they destroy the eggs of small birds; it is quite possible that they do so, but I have never seen any evidence of it, and, with Dr. Shufeldt, I am inclined to discredit such stories.

444. Kingbird: Tyrannus tyrannus (Linn.)

Adult—Upper parts dull grayish slate colour; entire head much darker, with concealed crest of bright orange; tail tipped with white; under parts white. Length—8.51.
Breeding Range—Throughout the Eastern States.

The nest is usually placed in a fruit tree near the end of a branch, at from six to twenty-five feet of the ground. It is a fairly well-made structure of weeds, grass, moss, fine roots, strips of grape-vine bark, leaves, string, and catkins, lined with thin strips of bark and horse hair. The number of eggs varies from 3 to 5, 5 being a common number; they are creamy white, sparsely spotted and blotched with blackish or chestnut brown and light lilac gray; there are great variations both in size, colour, and markings. Average size—.98 × .72. See Fig. 4, Plate D.

These somewhat pugnacious birds may be found in the more open country and orchards; their peculiar flight and white-tipped tail render them easy of identification. In most places they are very common, several nests being often found in a single orchard.

NEST AND EGGS OF YELLOW BILLED CUCKOO

Near New York they nest about the beginning of June or end of May.

445. Gray Kingbird: Tyrannus dominicensis (Gmel.)

Very similar to the preceding, but somewhat larger and without the white at the tip of the tail.

Breeding Range—South Carolina, southward.

The nest is not as large or compact as that of the common kingbird; the materials used in its construction are much the same; it is placed indiscriminately in bushes or trees, usually not very far from water. 3 to 4 eggs are laid; they are pinkish buff, with spots and blotches of dark brown and lilac. Size—1.00 × .75.

The breeding season begins in May.

466a. Alder Flycatcher: Empidonax traillii alnorum Brewst.

Adult—Upper parts greenish brown; under parts whitish; grayish on the breast; tinged with yellow on the belly, and the sides light greenish or grayish brown. Length—6.09.

Breeding Range—Northern New England and Michigan.

The nest is built in the crotch of a small bush within eight or nine feet of the ground, usually near water. It is composed of grasses, weeds, bark, and plant-down, sometimes lined with horse hair, and somewhat resembles the nest of the yellow warbler; it is, of course, rather larger. The eggs, 3 to 4 in number, are white or creamy white, dotted, spotted, or blotched, chiefly at their larger end, with dark reddish or purplish brown. Size—.74 × .51.

This bird is the more eastern sub-species of Traill's flycatcher, and resembles it closely.

467. Least Flycatcher: Empidonax minimus Baird

Eggs white or creamy, rarely speckled.

See Page 174, Chapter IX.

477. Blue Jay: Cyanocitta cristata (Linn.)

Adult—Upper parts bluish, somewhat tinged with purple; head crested; under parts grayish white; lighter on throat and belly; a black line across the breast, neck, and head; forehead black; wings and tail blue, barred with black. Length—11.74.

Breeding Range—Throughout the Eastern States.

The nest is placed in any sort of tree or bush, from four to thirty-five feet up. It is a rather bulky and ragged affair of twigs, roots, weeds, rags, and string. The nest shown in the accompanying photograph was made of twigs, rags, and a fair amount of mud. I do not, however, think that mud is often used in their construction. The eggs number from 3 to 6; they are greenish or yellowish drab, thickly spotted with greenish or reddish brown and dull lilac. Size—1.12 × .82. See Fig. 16, Plate D.

The many peculiarities of this bird render him most interesting; his voice and some of his habits are decidedly against him, while his appearance and cleverness are so greatly in his favour that the bad traits are or should be lost sight of. As a pet he has no equal, his tricks causing endless amusement, and his general character is good.

The young are very helpless at first, and are without down or feathers; when about nine days old their eyes open; they have pin-feathers and down, and to some extent they are able to use their feet. By the time they are about sixteen days old they are ready to leave the nest. The breeding season begins about the first week in May.

As they feed largely on acorns a grove of oak trees proves a great attraction to the blue jay population of any locality.

477a. Florida Blue Jay: C. c. florincola Coues

This is a rather smaller and grayer sub-species of the common blue jay. It is found in Florida and southern Texas. The nesting habits and eggs do not differ materially from those of the preceding species.

YOUNG BLUE JAYS GETTING READY TO LEAVE THEIR NEST

NEST AND EGGS OF BLUE JAY

479. Florida Jay; Scrub Jay: Aphelocoma floridana (Bartr.)

Adult—Back grayish brown; rest of upper parts bluish; throat and breast whitish, more or less streaked with bluish gray, which colour forms band across breast; belly the same colour, without the streaks. Length—11.50.

Breeding Range—Florida.

The nest is composed of twigs, leaves, moss, roots, etc., and is placed in bushes or scrub. 4 or 5 eggs are laid; they are light bluish green with reddish or black spots. Size 1.13 × .75.

The Florida or Scrub Jay is locally distributed through Florida, usually fairly common near water. The nesting season begins in March.

484. Canada Jay; Whiskey Jack; Meat Hawk; Moosebird: Perisoreus canadensis (Linn.)

Adult—Upper parts gray; the back of head and neck black; a large white spot on the front of head; under parts delicate gray, with whitish on the throat and sides of neck. Length—12.00.

Breeding Range—Northern New England and northward.

The nest is composed of twigs and strips of bark, with a thick lining of moss and feathers, and is placed in a fir tree close to the trunk, at no very great distance from the ground. The eggs, which number from 4 to 6, are grayish white, marked evenly or chiefly at the larger end with distinct and faint spots of brown. Size—1.12 × .80.

This graceful fluffy bird is at once the companion and the tormentor of the sportsman when camping out in the lonely forests of Maine or northward. If he happens to be alone it is a pleasure to have these birds frequent the camp, even at the cost of the dainty morsels that attract these keen-eyed thieves, who will drop from their look-out perch and seize the treasure, rapidly retreating towards a place of safety.

A piece of meat must indeed be carefully covered to protect it from these active pilferers; they are so absolutely tame (unless fired at) that they will even eat from one's hand upon slight acquaintance.

The nests are begun as early as February, even when the snow lays thick on the ground and the temperature is far below zero.

498. Red-winged Blackbird: Agelaius phœniceus (Linn.)

Eggs pale greenish blue or pearly white, with either blotches or scrawls of dark purplish brown, faint cloudy blotches of dull purplish brown, and spots of black.

See Page 77, Chapter IV.

511. Purple Grackle; Crow Blackbird: Quiscalus quiscula (Linn.)

Adult ♂—Purple, blue, and green iridescent black, the iridescence on the rump forming bars. Length—12.00.

Adult ♀—Much less iridescence.

Breeding Range—"In the lower Mississippi Valley and east of the Alleghanies, from Georgia to Massachusetts." (Chapman.)

The nest is a bulky structure of twigs, grasses, and sometimes mud, with lining of grass; it is placed in a bush or tree (usually an evergreen) from six to sixty feet from the ground, and occasionally in the hollow of a stump or tree. The eggs number from 3 to 6; they vary greatly both in colour and marking; the ground colour is creamy, bluish, light green, gray, or even brownish, while the markings may be blotches, spots, cloudings, large broad or small fine scrawls of faint lilac, blackish, and various shades of brown and purple. Size—1.18 × .84. See Fig. 3, Plate D.

The breeding begins from early in April to the middle of May, according to locality.

511a. Florida Grackle: Q. q. aglæus Baird

Closely resembling the preceding species, but smaller.

Breeding Range—Florida and the southern part of the Gulf States to Texas; north along the Atlantic coast to Virginia. (A. O. U. check-list.)

Nesting habits vary only according to natural conditions; eggs similar to those of the purple grackle.

511b. Bronzed Grackle: Q. q. æneus (Ridgw.)

Adult ♂—Iridescent blue, purple, green, and bronze, without the bars on the rump, very similar to the two preceding species; nearly the same as Quiscalus quiscula.

Adult ♀—More brown than the male, with more or less iridescence.

Breeding Range—"From Texas to Great Slave Lake, east to the Alleghanies, as far north as Pennsylvania, and north of this eastward to Connecticut, and northward to Labrador." (Chapman.)

The breeding habits, nests, and eggs are almost, if not quite, identical with those of the two preceding species.

513. Boat-tailed Grackle: Quiscalus major Vieill.

Adult ♂—Brilliant blue black, or almost blue. Length—16.00.

Adult ♀—Upper parts brownish; under parts dull buff or snuff colour. Length—12.50.

Breeding Range—Florida, north to Virginia (near the Atlantic coast), and on the Gulf coast to Texas.

The nest is a large structure of grass, saw-grass, sea-weed, roots, mud, sticks, and bark, placed in saw-grass or other swamps, or in bushes or trees, usually in the immediate vicinity of water. The eggs, 3 to 5 in number, are bluish or greenish white or drab, with scrawls, spots, and blotches of dark purplish brown or black. Size—1.24 × .81.

These beautiful birds, so resplendent in their bright blue-black coats, appear almost like flashes of blue fire as they dart among the deep shadows of the Florida alder swamps. They are strictly gregarious during the breeding season, which begins in April, large numbers nesting within a small area.

515. Pine Grosbeak: Pinicola enucleator (Linn.)

Adult ♂—Reddish rose colour, tinged with slaty gray, especially on the back and belly; wings brown, with whitish edgings.

Adult ♀—Grayish, tinged with yellowish where in the male the rose colour is most pronounced. Length—9.08.

Breeding Range—Chiefly to the north of the United States, and probably in northern New England.

The nest, which is in coniferous trees, is "composed of a basement of twigs and rootlets, within which is a more compact fabric of finer materials. Eggs, usually 4, pale greenish blue, spotted and blotched with dark brown surface markings and lilac shell spots. Size—1.05 × .74."

The Pine Grosbeak is an inhabitant of the coniferous forests of the north, visiting the United States chiefly during the winter months.

517. Purple Finch: Carpodacus purpureus (Gmel.)

Adult ♂—Rosy purple or reddish, with more or less brown, and on the belly white.

Adult ♀—Brownish, streaked with black on the back; under parts whitish, with spots of dark brownish gray. Length—6.22.

Breeding Range—The northern United States (including Long Island, New York), northward.

The rather shallow nest is composed of fine twigs, roots, thin strips of bark, tendrils, grass, and lined with grass and hairs. It is usually placed in evergreen trees, at a height of from about six to twenty or thirty feet from the ground. The eggs, numbering from 4 to 6 (Chapman), are pale blue or greenish, with faint purple and dark brown spots or small blotches. Size—.80 × .60. See Fig. 21, Plate D.

As a songster, the Purple Finch is known principally in New England and the other States that border on Canada. By the time he arrives in the vicinity of New York City his song is almost gone; nothing but a soft warble remains to remind one of the beautifully mellow song of the mating season. The nests are built towards the end of May, and frequently two broods are reared. Care should be taken that the female is not mistaken for a sparrow, her colouring and shape making such a mistake quite possible.

521. Red Crossbill; American Crossbill: Loxia curvirostra minor (Brehm.)

Adult ♂—Red or reddish, except the wings and tail, which are brown.

Adult ♀—Dull yellowish; back slightly mottled; under parts whitish, somewhat streaked; the tips of the bill are crossed. Length—6.19.

Breeding Range—In the Alleghanies, from North Carolina northward, and in the Northern States.

The nest is usually placed in evergreens at a height varying from fourteen feet upwards. It is composed of strips of bark, small twigs, roots, and leaves, lined with moss, hair, grass, and pine roots. The eggs, 3 to 4 in number, are pale greenish, with spots, dots, and blotches of purple brown and light lilac gray, chiefly at the larger end. Size—.83 × .55.

These eccentric-looking birds may be readily distinguished from the white-winged crossbills by the fact that they have no white on the wings; their crossed bills serve to distinguish them from any other of the finches. The breeding season begins as early as February or March. (Davie.)

522. White-winged Crossbill: Loxia leucoptera Gmel.

Adult ♂—Upper parts pinkish red; somewhat streaked with deep brown on the back; under parts pinkish red, shading into grayish on the belly; wings black, with *white markings*.

Adult ♀—Upper parts dull greenish yellow, somewhat mottled with dark brown; under parts grayish yellow, with dark brown mottling; wings have white markings; tips of bills crossed. Length—6.05.

Breeding Range—From the Northern States, northward.

The nest is composed of "twigs and strips of birch bark, covered exteriorly with moss (Usnea) and lined with soft moss and hair, on the fork of an evergreen in deep forests."

The eggs are pale blue, rather thickly covered at the larger end with fine dots of blackish and lilac gray. Size—.80 × .56.

This is by no means so common a bird as its relative, the American or red crossbill, and but little is known of its breeding habits. During the present winter (1899–1900) these birds have been very common in South Orange, New Jersey, and have usually been seen in company of the American crossbill.

529. American Goldfinch; Yellow-bird: Spinus tristis (Linn.)

Adult ♂—Lemon yellow, except the crown, wings, and tail, which are black.

Adult ♀—Dull greenish or olive yellow; nearly white on the

lower breast and belly; wings and tail dark brownish gray. Length—5.10.

Breeding Range—Throughout the Eastern States north of South Carolina.

The nest is a compact cup-like structure of fine grass, moss, vegetable fibre, snugly lined with thistle and other plant-down. It is placed in the crotch of a bush or tree, and sometimes in a coarse fern or a large thistle. It is seldom more than thirty-five feet from the ground. The eggs, 3 to 6 in number, are very pale blue, *very* rarely marked with fine dots. Size—.65 × .52.

Thoroughly good companions are these cheerful little birds; their very note as they fly from field to field or from one tall seed-bearing stalk to another is full of overflowing good spirits. Except during the short nesting season, which is usually delayed until the thistle-down is ready for the lining of their cozy nests, they keep together in small flocks, frequenting the fields where seeds are abundant.

In winter, when the males have lost their bright yellow colouring, they may be seen hanging from the dried stems of the golden-rod, feeding on the fluffy seeds. The nesting site may be in an open field where small bushes are scattered about, or it may be in openings or clearings in the woods where the tall ferns or scrubby growth are to the birds' fancy. The regular time for nest-building is towards the end of June, but it is often delayed until July, or even August, and only in exceptional cases is it early in June.

533. Pine Siskin; Pine Finch: Spinus pinus (Wils.)

Adult—Upper parts brownish and buffy gray, streaked; base of tail and wing feathers sulphur yellow; under parts light buffy gray or whitish streaked with dark brown. Length —5.00.

Breeding Range—Northern New England, New York, and Michigan, northward.

The nest is placed at a considerable height from the ground, usually in coniferous trees, and is made of grass, pine needles, and fine roots, lined with plant-down, hair, and feathers. 4 eggs are laid; they are very pale greenish blue, spotted more or less with purplish or reddish brown. Size—.68 × .48.

NEST AND EGGS OF CHIPPING SPARROW

Within the United States these nests are rare, as the birds breed chiefly further north. The season for nesting in northern New York is from early in May to the middle of June.

552. Lark Sparrow; Lark Finch: Chondestes grammacus (Say)

Eggs resembling those of the Baltimore oriole, whitish, with spots and dark purplish scrawl-like markings.

See Page 47, Chapter I.

558. White-throated Sparrow: Zonotrichia albicollis (Gmel.)

Eggs white or bluish white, with fine marks and heavy blotches of different shades of brown.

See Page 60, Chapter II.

560. Chipping Sparrow: Spizella socialis (Wils.)

Adult—Upper parts streaked with black, rufous gray, and buff; top of head rufous; under parts light gray. Length—5.37. The young are without the rufous crown, and with streaks on the breast in first plumage.
Breeding Range—Throughout the Eastern States.

The nest is composed chiefly of fine grass and fine roots, with hairs for lining. It is shallow, and is placed in vine, bush, or tree, at a height from the ground of from one to twenty-five feet; there are very exceptional instances of the nest being on the ground.

3 to 5 eggs are laid; they are rather light blue, tinged with green, with few fine spots, and sometimes fine scrawls of light and dark purplish brown at the larger end. Size—.70 × .51. See Fig. 8, Plate D.

These common little sparrows are well known as being of a social disposition, breeding usually in the immediate vicinity of a dwelling, and often building their frail nest in the vines that grow against the house. When in captivity they lose to a great

extent their sociable qualities, and are, therefore, not very desirable pets. The eggs are laid early in May, and usually two broods are reared during the season.

561. Clay-coloured Sparrow: Spizella pallida (Swains.)

Closely resembling the preceding species; the upper parts are colder in colour, and the under parts lighter.

Breeding Range—From northern Illinois westward.

The nest is of grass and hair, and is placed in low bushes or on the ground, near brush or at the edge of woods. The eggs, from 3 to 6 in number, are similar to those of the chipping sparrow.

563. Field Sparrow: Spizella pusilla (Wils.)

Eggs white or greenish, with numerous small reddish spots or blotches; some eggs are very sparsely spotted.

See Page 48, Chapter I.

567. Snow-bird; Junco: Junco hyemalis (Linn.)

Eggs greenish or bluish white, spotted or blotched with reddish and purplish brown.

See Page 61, Chapter II.

567e. Carolina Snow-bird, or Junco: J. h. carolinensis Brewst.

Eggs similar to the preceding.

See Page 61, Chapter II.

581. Song Sparrow: Melospiza fasciata (Gmel.)

Eggs white, tinged with blue or green with irregular brownish blotches or markings.

See Page 49, Chapter I.

PLATE D—Common Eggs

1. Wood Pewee.
2. Pine Warbler.
3. Purple Grackle.
4. Kingbird
5. Loggerhead Shrike.
6. Yellow-breasted Chat
7. Painted Bunting.
8. Chipping Sparrow.
9. Catbird.
10. American Robin.
11. Wood Thrush.
12. Rose-breasted Grosbeak.
13. Scarlet Tanager.
14. Yellow Warbler.
15. Chestnut-sided Warbler.
16. Blue Jay.
17. Cardinal.
18. Mockingbird
19. Cowbird.
20. Prothonotary Warbler.
21. Purple Finch.

587. Chewink; Towhee: Pipilo erythrophthalmus (Linn.)

Eggs white, tinged with blue or pink, evenly speckled and rarely blotched with brown.

See Page 64, Chapter II.

587a. White-eyed Chewink, or Towhee: P. e. alleni Coues

Eggs bluish white, unmarked or thickly speckled with pinkish vinaceous and pearly gray.

See Page 64, Chapter II.

593. Cardinal; Red-bird: Cardinalis cardinalis (Linn.)

Adult ♂ — Rich red or cardinal; wings and back tinged with reddish gray; throat and region round bill black; crest conspicuous.

Adult ♀ — Upper parts brownish, with a tinge of dull purplish; under parts lighter and more gray, with a tinge of red; crest dull red. Length—8.25.

Breeding Range—From Florida northward; common locally in northern New Jersey, less common in southern New York, and rare as far north as southern New England.

The nest is in a bush, usually in a thick tangle, either in a damp or dry place, at a height of from three to twelve feet from the ground.

It is composed of twigs, tendrils, grape-vine bark, leaves, coarse grass, and fine roots, lined with fine grass, roots, and rarely horse hair. In general appearance it is larger and more compact than the nest of the rose-breasted grosbeak. The eggs, numbering from 3 to 4, rarely 5, vary greatly; the ground colour is whitish or tinged with blue, green, or ashy, with numerous irregular spots and sometimes blotches of light and dark brown, and light purplish gray chiefly at the larger end. Size—1.00 × .72. See Fig. 17, Plate D.

This beautiful songster is one of the best known birds of the Southern States; his fine colouring together with his splendid singing qualities combine against him, and as a result he is a constant article of commerce both in this country and abroad.

The female cardinal, though more subdued in colouring, is by no means inferior to her mate in her powers of singing ; her song is rather softer, but not less beautiful. The breeding season begins about the third week in April.

593d. Florida Cardinal: C. c. floridanus Ridgw.

A geographical race of the common cardinal, rather smaller and not so intensely coloured. The nesting habits and eggs are identical with those of the more northern bird.

Breeding Range—Florida.

This is a very common bird in most parts of Florida, frequenting the vicinity of houses, clearings, or hummocks ; they are exceedingly tame, and lend a cheerful bit of colour and song to the somewhat monotonous scenery of most parts of Florida.

595. Rose-breasted Grosbeak: Habia ludoviciana (Linn.)

Adult ♂—Head, throat, and back black ; breast carmine ; under wing coverts rose colour ; belly white ; wings black, with white markings ; tail black tipped with white ; the beak, as the bird's name implies, is very thick and strong. Length—8.15.

Adult ♀—Head, back, and breast warm gray or buff, with brown markings ; the head has a buff line on the crown, with a dark line on either side, and a conspicuous white line over the eye ; wings and tail grayish brown ; the under wing coverts are bright golden yellow.

Immature ♂ *and* ♀—Resemble each other, the colour being much the same as that of the adult ♀, but rather lighter, the only marked difference being in the under wing coverts, which in the ♀ are bright yellow, and in the ♂ rose colour. When about three months old the ♂ shows a decidedly warm buff colour on the breast, with undefined wine-coloured markings ; the back becomes darker and also warmer in tone.

The ♀ has the line over the eye nearly white; the throat very pale gray, with dark brownish gray markings, and is in general appearance much colder in tone than the ♂.

♂, eighteen months old—The head and back black, mottled with buff ; line over eye light buff ; throat and upper part of breast buff, with reddish suffusions and fine black marks ; breast rather dull carmine, with a few dark spots and a tinge of buff ; sides light buff, streaked slightly with

ROSE-BREASTED GROSBEAK'S NEST

Showing where a tragedy has occurred, the smallest bird having died a day or so before the rest of the brood were ready to leave

dark brown ; belly white ; wings black, with white feathers, each white feather tipped with buff.

Breeding Range—The Eastern States, from North Carolina (in the more elevated regions) northward to New England.

The nest is shallow, and loosely constructed of dry vine tendrils and small twigs, at a height of seven to fifteen feet from the ground, placed in blackberry or other vines, in bushes, or in trees. The eggs, from 3 to 5 in number, are pale greenish blue, nearly covered by small irregular brownish and lilac markings. Size—.96 × .73. See Fig. 12, Plate D.

It is not a difficult nest to find, as the male bird, whose brilliant colour makes him so conspicuous, is generally to be discovered near by, and when the nest is threatened by the intruder he becomes greatly excited, uttering an oft-repeated sharp, piercing note, and occasionally breaking into that beautiful soft song so peculiar to the grosbeak. When he is seen to act in that manner there is sure to be a nest not far away, and a little patient searching will discover its whereabouts. The nest when found will probably cause some surprise by the apparently insecure manner in which it is placed. Most birds weave their nests around branches or vines, but the grosbeaks seldom take such precaution ; they usually build their nest in or on the fork of a branch, from which it may be removed without disturbing it in any way. A likely place for the nest is near the banks of a stream, where the bushes grow thick.

The young leave the nest when about eleven days old. If taken at that age they may be easily reared, as they are remarkably hardy and become absolutely tame in a very short while. Few birds make better pets ; they are sociably inclined—even affectionate, if I may use the term when speaking of birds—beautiful in appearance, and the male bird sings a delightfully sweet song, which he commences when ten weeks old. If left in a lighted room, they sing until late at night. The breeding season near New York begins about the third week in May.

597. Blue Grosbeak: Guiraca cærulea (Linn.)

Adult ♂—Deep and rather obscure blue ; nearly black on the back ; chin and in front of eyes black.

Adult ♀—Upper parts grayish brown, tinged more or less with blue ; under parts creamy brown. Length—7.00.
Breeding Range—From southern New Jersey and southern Illinois, southward.

The nest is composed of leaves, plant stems, and sometimes a piece of snake skin, and is lined with fine roots and hair. It is placed in bushes or vines, usually from five to thirty feet from the ground. 3 to 4 pale bluish eggs, rarely spotted with reddish brown, are laid. Size—.84 × .63.

These rather rare birds frequent scrubby ground and thickets, where they commence nesting in May.

598. Indigo-bird; Indigo Bunting: Passerina cyanea (Linn.)

Adult ♂—Intense blue on the head ; other parts rather lighter.
Adult ♀—Upper parts plain brownish ; under parts grayish, the breast being indistinctly streaked. Length—5.59.
Breeding Range—Throughout the Eastern States.

The nest is composed of grass, leaves, downy seeds, and fine roots, lined with fine grass and hair. It is usually near the ground (sometimes within one foot), in a low bush or weeds ; if in a bush, it is placed in a crotch ; if in weeds, such as the Joe-pye weed, nettle, or others of a similar nature, it is hung from the stems, with practically no support from beneath. 3 to 4 white eggs are laid ; they are slightly tinged with blue and rarely marked with fine dots. Size—.75 × .55.

While the male Indigo-bird perches on the telegraph pole—a blue spot against a blue sky—and sings throughout the summer day, his sparrow-like mate is attending to her household duties in the scrub below. She attracts no attention ; her dusky colour and quiet manner will never draw any person to her carefully hidden nest. During the tedious duties of incubation she is visited repeatedly by her mate, but he goes to and from the nest in such an erratic manner that it is most difficult to follow him. The nest, which is not at all a neat structure, requires from two to four days to build. The eggs hatch after ten days of incubation, and in a surprisingly short time the young are ready to leave the nest and hide themselves in the tangle of vines and bushes.

FEMALE INDIGO-BIRD FEEDING HER YOUNG

INDIGO-BIRD'S NEST, ATTACHED TO UPRIGHT STEMS

In the neighbourhood of New York the breeding season begins towards the end of May.

601. Painted Bunting: Passerina ciris (Linn.)

Adult ♂ — Entire head and sides of neck deep blue; back rich yellowish green; rump dark red; the wings and tail are brownish gray, tinged with red; under parts vermilion.

Adult ♀ — Upper parts greenish; under parts grayish or yellowish. Length—5.25.

Breeding Range—From North Carolina and southern Illinois, southward.

The nest is placed either in a bush or tree, and is composed of grass, leaves, weed stalks, and strips of bark, lined with fine roots and sometimes hair. It resembles the nest of the indigo-bird, but is more neatly made. 3 to 5 eggs are laid; they are white or slightly tinged with blue or gray and spotted or blotched with chestnut brown and lilac. Size—.79 × .58. See Fig. 7, Plate D.

These buntings, on account of their brilliant colouring, are much sought after as cage birds; their shyness saves them to some extent, for, even though they are very common in places, they are not particularly in evidence. They breed from about the middle of May and frequently rear two broods.

604. Dickcissel; Black-throated Bunting: Spiza americana (Gmel.)

Eggs pale blue.

See Page 50, Chapter I.

608. Scarlet Tanager; Red-bird: Piranga erythromelas Vieill.

Adult ♂ — In summer bright scarlet, except the wings and tail, which are black.

Adult ♀ — Yellowish green; more yellow and lighter on the breast; wings and tail dull brown. Length—7.25.

In the autumn and winter the male is greenish, with black wings and tail.

Breeding Range—From South Carolina northward.

The nest is a thin, flimsy structure of fine roots, tendrils, small sticks, and sometimes straws, placed in a tree, usually on a horizontal branch (seldom in a crotch) at from six to twenty-five feet from the ground.

The eggs, numbering from 3 to 5 (3 being a very common number), are clear greenish blue, finely spotted, mostly at the larger end, with chestnut and purple. Size—.96 × .65. See Fig. 13, Plate D.

The Scarlet Tanager builds his nest in almost any sort of tree and in almost any sort of place. In orchards the nests are common; along the roadsides, on the edge of woods, they often build, and occasionally a nest is found in the deep woods, at some distance from a clearing. The breeding season commences towards the end of May; in the vicinity of New York, before June 1st. The period of incubation occupies thirteen days.

610. Summer Tanager; Summer Red-bird: Piranga rubra (Linn.)

Adult ♂—Bright scarlet; the wings and tail brownish, edged with red.

Adult ♀—Olive green; under parts tinged with yellow. Length —7.50.

Breeding Range—Southern New Jersey, southward (casually north to Massachusetts and Ontario [A. O. U. check-list]).

The nest is composed of leaves, weed stalks, grass, catkins, and strips of bark, and is placed on a horizontal branch, at a height of from six to twenty-five feet from the ground. 3 to 4 eggs are laid; they resemble the eggs of the scarlet tanager, but the markings are heavier and more brown. Size—.94 × .64.

The nesting season, which begins about the middle of May, continues until well into July.

619. Cedar-bird; Cedar Waxwing: Ampelis cedrorum (Vieill.)

Adult—Rich light grayish or purplish brown, with conspicuous crest; throat, forehead, and line in front and back of eye black; small scarlet tips to the wing (secondaries) and tail feathers; tail tipped with yellow; belly pale yellow. Length —7.19.

NEST OF SCARLET TANAGER IN APPLE TREE, NINE FEET FROM GROUND

Breeding Range—From Virginia, the southern Alleghanies, Kentucky, Kansas, Arizona, etc., northward. (A. O. U. check-list.)

The nest is composed of grass, bark, fine roots, catkins, moss, rags, and twine, a fine, well-formed structure, which sometimes has mud added to its long list of building materials. It is placed from five to twenty-five feet from the ground, usually in fruit trees or cedars. The eggs are pale gray or with a slight tinge of green, and thinly spotted with purplish black and light dull purplish ; the number varies from 3 to 5. Size—.85 × .60. See Fig. 12, Plate B.

There is no bird so well groomed as the Waxwing ; his toilet is made with the most scrupulous care ; never is there a feather out of place, nor a spot of dirt on his velvety coat. Well-drilled companies of these birds may be seen flying rapidly from tree to tree in search of berries and seeds at all times, except during the immediate breeding season. When they are seen to be feeding on the alders, you may know it will not be long before the nest will be built. In the vicinity of New York, eggs may be found about the first week in June.

622. Loggerhead Shrike; Butcher Bird: Lanius ludovicianus Linn.

Adult—Upper parts gray ; wings black, with white markings ; tail black, with white tips ; outside feathers white ; a broad black line from base of bill to back of cheek ; under parts white or pearly gray. Length—9.00.

Breeding Range—East of the Alleghanies, from northern Virginia southward, and occasionally north to southern New Jersey. West of the Alleghanies, "northward to the Great Lakes, and eastward through central New York to Vermont and Maine."

Note—The shrike found breeding in northern New England sometimes resembles more or less the white-rumped shrike (*L. excubitorides*), and is occasionally classified as such, but I believe it has been decided not to change the name of *ludovicianus*, as the differences are too slight and inconsistent.

The nest is composed of twigs, leaves, weeds, bark, grass, fine roots, and lined with grass, sometimes wool or feathers ; it is rather bulky and loosely made, and is placed in a bush or tree,

often a thorny bush or tree being chosen. The eggs number from 3 to 6; they are white, more or less tinged with yellow or green gray, thickly spotted, chiefly at the larger end, with yellowish brown and lilac. Size—.98 × .80. See Fig. 5, Plate D.

So much has been written on the evil propensities of this bird that he possesses a thoroughly bad reputation, and is spoken of as a murderer; and that simply because he is provident and lays up a store of food for the proverbial rainy day. His method leaves something to be desired, it is true, but there must be reason in what he does, and I cannot believe that any bird is cruel and kills for the sake of killing; that is left for man. The Loggerhead Shrike catches his prey, consisting chiefly of grasshoppers, and impales them, often before they are dead, on a thorn, to be eaten at leisure. The breeding season begins, according to locality, from May to June, two broods being usually reared.

638. Swainson's Warbler: Helinaia swainsonii Aud.

Adult—Upper parts, including wings and tail, olive brown; the crown chestnut; a yellowish-white stripe over the eye; under parts yellowish white, shading into gray on the sides. Length—5.00.

Breeding Range—South Carolina, southward.

The nests are "made outwardly of leaves placed in layers, and lined with pine needles and fine fibrous roots" (Davie). They are placed in bushes, scrub, palmetto, or cane, either in damp or dry places. 3 to 4 pale bluish-white (unmarked) eggs are laid. Size—.78 × .57.

This rare warbler was lost sight of for many years, and was rediscovered by Mr. A. T. Wayne, of Charleston, South Carolina, in 1885. The breeding season probably begins early in May.

640. Bachman's Warbler: Helminthophila bachmani (Aud.)

Adult ♂—Upper parts: Forehead yellow; a black patch in front of crown; crown and back of head dull gray; back and rump olive green; tail grayish; under parts yellow, with a black patch on breast.

Adult ♀—Without the black on the head; under parts whitish yellow. Length—4.25.

NEST OF THE CEDAR BIRD

Built of catkins and strips of grape-vine bark.

Breeding Range—Somewhat uncertain; it has been found during the summer in Missouri and Arkansas, and a nest was found on St. Simon's Island, Georgia.

The nest is described as placed in vines or low bushes, and as being composed of grasses and fine weeds, lined with hair-like fibre and fine grass. The number of eggs is probably 4; they are dull white, spotted chiefly in a wreath-like cluster round the larger end with brown and lavender. Size—.74 × .60.

642. Golden-winged Warbler: Helminthophila chrysoptera (Linn.)

Eggs white, with brownish and lilac spots, mostly in a wreath round the larger end.

See Page 67, Chapter II.

647. Tennessee Warbler: Helminthophila peregrina (Wils.)

Adult ♂—Head and sides of face bluish gray, abruptly changing to bright olive green on the back; the wing and tail feathers are edged with green; under parts white tinged with yellow, and shading into gray on the sides.

Adult ♀—The crown is tinged with olive green, and the under parts are more yellow. Length—5.00.

Breeding Range—From northern New England and New York, northward.

The nest is placed near the ground in a bush; it is composed of fine vegetable fibre, grass, and moss, and lined with hair. The eggs are pearly white, with a circle of brownish and purplish spots round the larger end. Size—.60 × .50.

652. Yellow Warbler; Canary; Summer Warbler; Yellow-bird: Dendroica æstiva (Gmel.)

Adult—Upper parts bright greenish yellow; under parts bright yellow, more or less streaked, chiefly on the sides, with chestnut. Length—5.10.

Breeding Range—Throughout the Eastern States.

The nest is made chiefly of silver-coloured plant fibre, with

leaves, grass, and caterpillars' silk, lined with hairs, feathers, and the downy material from fern stems. It is a beautiful, compact nest, placed usually in a low bush or in a tree, but by no means always within ten feet of the ground. 3 to 5 eggs are laid; they are white or whitish, with a wreath of spots and blotches of chestnut and lilac or lavender, and a few very dark irregular markings round the larger end; the region enclosed by the wreath sometimes is light brownish with reddish spots, and there are a few spots of chestnut scattered over the rest of the surface. Size—.65 × .46. See Fig. 14, Plate D.

This is one of our commonest warblers; it is usually to be found in rather swampy thickets or in orchards. The nests, which are made early in May, are exquisite examples of bird architecture; they are very frequently placed in elder bushes, and are usually at no great distance from water. They may be easily found by watching the conspicuous yellow birds as they gather the down from the young fern-stalks; this they collect in large quantities and fly directly to the site of their building operations, attracting attention during flight by their oft-repeated chee-wee. The parent birds are very solicitous for the welfare of their young and become greatly excited if the nest is threatened.

The breeding season lasts from early May to about the middle of June and as a rule only one set of eggs is laid.

654. Black-throated Blue Warbler: Dendroica cærulescens (Gmel.)

Adult ♂—Upper parts slaty blue; throat, side of head, and sides of breast black; breast and belly white.

Adult ♀—Upper parts dull olive green, a white spot on the wing, under parts buffy white. Length—5.28.

Breeding Range—Along the Alleghanies, from South Carolina northward, and from northern United States northward; rarely in Connecticut.

The nest is placed in a laurel, a yew, or other tree, according to locality, at a distance from the ground of two feet and upwards. It is composed of bark, grass, pine needles, and cocoons, lined with hair and fine black roots. The eggs, usually 4 in number are white, tinged with either buff or green, blotched and

NEST OF YELLOW WARBLER IN ELDER BUSH, FIVE FEET FROM GROUND

spotted with chestnut and olive brown, chiefly at the larger end. Size—.72 × .50.

These warblers may be easily identified—the male by his black, white, and gray blue colouring, and the female by the white patch on the wing.

The breeding place is often in the damp woods, the nests being finished about the middle of May.

655. Myrtle or Yellow-rumped Warbler: Dendroica coronata (Linn.)

Adult ♂—Upper parts bluish gray, streaked with black; bright yellow on the crown and rump; cheeks black; throat and belly white; breast heavily marked with black, and with a yellow patch on either side; wings with two white bars.

Adult ♀—Similar, but the plumage is duller. Length—5.65.

Breeding Range—From the northern United States northward. (A. O. U. check list.)

The nest is composed of hemlock twigs and various soft vegetable fibres, lined with fine grass, feathers, and occasionally hair. It is placed usually within eight feet of the ground, in coniferous trees and sometimes bushes. The eggs, 3 to 5 in number, are white or whitish, spotted and blotched with light and dark purplish and reddish brown and lilac gray, sometimes wreathed round the larger end. Size—.70 × .54.

These unmistakable warblers, with their yellow patches, are found breeding principally in the large forests from Maine to northern Ohio. They usually choose somewhat damp places for their nesting purposes, but at other times they are found in scattered flocks throughout the more open country. The breeding season begins late in May.

657. Magnolia or Black and Yellow Warbler: Dendroica maculosa (Gmel.)

Adult ♂—Upper parts black, a white patch on the wing; rump yellow; crown ashy blue; a short white line over and back of eye; cheek black; under parts yellow, with heavy black streaks.

Adult ♀—Very similar, but less brilliant. Length—5.12.

Breeding Range—The higher parts of the Alleghanies, from Virginia northward; northern New England to northern Michigan, northward.

The nest is composed of twigs (principally hemlock), grass, pine needles, and weeds, lined with fine roots and hair-like fibre. It is usually placed on the horizontal branch of a coniferous tree, from three to thirty-five feet from the ground. The eggs, numbering 4 to 5, are white or creamy white, blotched and spotted (sometimes clouded at the larger end) with hazel, brown, and lilac wreathed round the larger end. Size—.65 × .48.

The nest is generally to be found on the edge of paths or clearings, in woods of firs and hemlocks; "sometimes the nests are built in the tops of young hemlocks, ten to fifteen feet up, or in the heart of the forest, thirty-five feet above the ground."

The breeding season begins about the beginning of June.

658. Cerulean Warbler: Dendroica cærulea (Wils.)

Adult ♂—Upper parts pure blue, streaked with black on the back and sides of head; under parts white, streaked with blackish on the sides, and on the breast, across which the streaks form an irregular band.

Adult ♀—Upper parts greenish; under parts white, tinged more or less with yellow. Length—4.50.

"Breeds in the Mississippi Valley as far north as Minnesota, and eastward as far as Lockport, New York"; rare east of the Alleghanies.

The nest is made of grasses, spider web, and lichen, lined with fine grass; it is a compact structure placed at a considerable height from the ground, probably not less than twenty, and from that up to fifty feet. The eggs are white, tinged with cream, blue, or green, and spotted and blotched (sometimes chiefly at the larger end) with brownish red and lilac gray. The full complement is probably 4. Size—.65 × .50.

The nests of this beautiful blue warbler are rather rare, not only from the fact that the birds themselves are common in but few places, but because the nests, being placed on high branches in the forests, are exceedingly difficult to find. The breeding season probably begins about the middle of May, or perhaps rather earlier.

NEST AND EGGS OF CHESTNUT-SIDED WARBLER IN AZALEA, TWO FEET FROM GROUND

659. Chestnut-sided Warbler: Dendroica pennsylvanica (Linn.)

Adult—Upper parts greenish, streaked with black; crown yellow; a black line from base of bill on sides of throat to upper part of breast, where it joins the chestnut patch on either side of the breast and belly; rest of under parts whitish. Length—5.14.

Breeding Range—In the Alleghanies, northward from South Carolina, and from northern New Jersey and Illinois northward.

The nest is placed in low bushes at a height from eighteen inches up to seven or eight feet. It is a fairly compact nest, about an inch and a half deep inside, composed of grass, thin strips of bark, a small amount of plant fibre, and lined with fine grass, hair, and hair-like roots. Seldom more than 4 eggs are laid; they are white, with light reddish-brown and pale lavender spots, most of which form an irregular wreath round the larger end. Size—.68 × .50. See Fig. 15, Plate D.

The Chestnut-sided Warbler arrives at the southern portion of his lowland range (New Jersey) about the first week in May, and he and his mate, who lacks but little of the brilliancy of his colouring, choose some suitable place, such as the scrubby second growth of a clearing, or near a brook where the underbrush is thick, and there they remain until time for nest-building, which begins about the last week in May. During this period and for about a month or so after, the sweet note of the male bird may be heard at almost any time of day. While his mate is performing the tedious duty of incubating, he remains near by and sings at frequent intervals. The accompanying photograph was taken in South Orange, New Jersey, the nest being placed within eighteen inches of the ground, in an azalea plant.

660. Bay-breasted Warbler: Dendroica castanea (Wils.)

Adult ♂—Upper parts ashy gray or brownish, streaked with black; crown chestnut; forehead and cheeks black; two white wing bars; tail tipped broadly with white. Under parts, throat, breast, and sides reddish chestnut; lower part of breast and belly white.

Adult ♀—Less brilliant and with less chestnut, especially on the crown, which is a mixture of greenish and rufous. Length—5.63.

Breeding Range—Northward from northern New England and northern Michigan.

The nest is placed in coniferous or other evergreen trees, at a height of from five to as much as twenty feet from the ground. It is a compact structure of fine strips of bark, twigs, hair, plant fibre, and downy substance gathered from plants. The eggs are white, with fine spots of reddish brown at the larger end, sometimes forming a wreath. The number is usually 4. Size—.70 × .50.

661. Black-poll Warbler: Dendroica striata (Forst.)

Adult ♂—Upper parts gray, streaked with black; nape and cheeks white; crown black; under parts white, shading into gray on the flanks; throat and sides of breast and belly streaked with black.

Adult ♀—Upper parts dusky olive green, streaked with black; under parts more or less tinged with yellowish, with dusky streaks. Length—5.56.

Breeding Range—From northern New England and the Catskills northward. (A. O. U. check-list.)

The nest, which is placed in coniferous trees (usually spruce), at a height of about six or eight feet from the ground, is composed of fine twigs, roots, weeds, lichen, and moss, lined with grass and feathers. 4 or 5 eggs are laid; they are white or creamy white, spotted and blotched chiefly at the larger end with various shades of reddish brown and lilac. Size—.72 × .52. It is principally in the regions far north of the United States that these hardy little birds have their summer homes, and there in the forests of fir and spruce they hide their nests.

In the more northern parts of New England a few belated pairs remain during the summer, building their nests towards the latter part of June.

662. Blackburnian Warbler: Dendroica blackburniæ (Gmel.)

Adult ♂—Upper parts streaked black and white; crown bright orange, surrounded by black; bright-orange line from bill over eye to back of cheek; under parts, throat, and breast bright orange; belly yellowish white, streaked with black.

Adult ♀—Upper parts dull olive instead of black ; the yellow parts are replaced by dull orange. Length—5.25.

Breeding Range—From southern Maine, eastern Massachusetts, and northern New York northward ; also along the Alleghanies from South Carolina northward.

The nest is described as being compactly made of spruce twigs, fine roots, shreds of bark, and soft plant down (especially cat-tail down), lined with hair, grass, tendrils, and sometimes feathers. It is placed in coniferous trees, at about twenty feet from the ground. 4 eggs are laid ; they are white, tinged with green or blue and spotted or faintly blotched with various shades of brown and ashy lilac. Size—.69 × .50.

These warblers, the most brilliant-coloured of their family, are known to most of us only as migrants, reaching the neighbourhood of New York about the middle of May, on their way to their breeding places in the evergreen forests of Maine and northward.

The nests are completed probably about the end of May or beginning of June.

663. Yellow-throated Warbler: Dendroica dominica (Linn.)

Adult—Upper parts gray ; darker on the forehead ; over the eye there is a white line, which changes to yellow between the eye and bill ; sides of face and sides of throat black, back of which is a white patch ; under parts yellow to white on the belly, and streaked on the sides with black. Length—5.25.

Breeding Range—Virginia (casually to southern New England), southward.

The nest is placed on a branch of a pine tree, or in tufts of hanging moss, at a height of eighteen feet and upwards. It is composed of twigs, bark, and Spanish moss, lined with plant-down, and sometimes feathers.

The eggs, numbering from 4 to 5, are whitish, with spots of brown and drab evenly distributed, or in a wreath at the larger end. Size—.74 × .53.

The breeding season commences towards the end of April or early in May.

663a. Sycamore Warbler: D. d. albilora Ridgw.

Closely resembling the preceding, but rather smaller, and without yellow in front of the eye.

Breeding Range—"The Mississippi Valley north to Kansas, southern Indiana, and southern Illinois; east to western South Carolina" (Chapman). Davie gives the range as, "North to Lake Erie and southern Michigan, and east to western North Carolina."

The nest is usually placed in sycamore trees. "It is composed of fine shreds of vegetable material intermingled with short, slender twigs as the base."

The eggs are identical in markings with those of the yellow-throated warbler, but are slightly smaller in size.

667. Black-throated Green Warbler: Dendroica virens (Gmel.)

Adult ♂—Upper parts olive green; two white wing bars, bright yellow cheeks, and line over eye; under parts, throat, breast, and streaks on sides of flank black; belly white, more or less tinged with yellow.

Adult ♀—Very similar, the throat having yellow mixed with black. Length—5.10.

Breeding Range—The higher parts of the Alleghanies to South Carolina, and northward from Connecticut and northern Illinois.

The nest is a beautiful compact structure of small twigs (usually of hemlock or spruce), lichen, moss, grass, wool, and bark, lined with plant down, hair, grass, and feathers. It is generally placed in a coniferous tree, at a height varying from ten or fifteen to fifty feet. The eggs, 3 or 4 in number, are creamy white, spotted, specked, and rarely blotched with orange brown, chiefly at the large end. Size—.64 × .52.

These birds during the breeding season inhabit almost exclusively the dense coniferous or mixed forests, where in June they build their nests.

BROOD OF YOUNG CHATS

The peculiar shape of the bill renders them fairly easy of identification

671. Pine Warbler: Dendroica vigorsii (Aud.)

Adult ♂—Upper parts olive; under parts bright yellow, shading into white on the belly, with more or less black streaks on the sides.

Adult ♀—Less brilliant; under parts more grayish. Length—5.52.

Breeding Range—Throughout the Eastern States, from Florida northward; almost exclusively confined to regions where the pitch pines are abundant.

The nest is placed towards the outward end of a branch in evergreens, usually pines, at a considerable distance from the ground. The materials used in its construction are leaves, strips of bark, weeds, and caterpillars' or spiders' web, with the lining of hair and feathers. 3 to 4 and sometimes 5 eggs are laid; they are white or dull white, with specks and spots of various shades of brown and lilac gray, most of which form a wreath round the larger end. Size—.68 × .52. See Fig. 2, Plate D.

The breeding season begins from the middle of March to the latter part of May, according to locality.

673. Prairie Warbler: Dendroica discolor (Vieill.)

Adult ♂—Upper parts bright olive green, more or less spotted with chestnut; a single wing-bar of yellow; above and beneath the eye yellow, divided and bordered by black; under parts bright yellow, streaked on the sides with black.

Adult ♀—Very similar; the chestnut spotting on the back sometimes lacking. Length—4.75.

Breeding Range—From southern New England southward.

The nest is composed of fine grass, plant fibre, and down, and lined with fine roots and hair, resembling to some extent the nest of the yellow warbler. It is placed near the ground, in scrubby bushes or saplings, often in young cedars. 3 to 5 eggs are laid; they are white, with a few brown or purplish brown and faint lilac spots wreathed round the larger end. Size—.66 × .50. See Fig. 16, Plate B.

The breeding season commences at any time from the beginning of May to the first or second week in June, according to locality.

679. Mourning Warbler: Geothlypis philadelphia (Wils.)

Adult ♂—Upper parts rather dark olive green ; head, neck, and throat gray, shading into black on the breast ; belly, lemon yellow.

Adult ♀—Less brilliant ; entire upper parts greenish olive ; under parts gray, lighter on the throat and shading into yellow on the belly. Length—5.63.

Breeding Range—Northern New York and New England northward, and in the mountainous regions of Pennsylvania.

The nest is composed of strips of bark, leaves, and grass, lined with fine grass and hair. It is placed in low bushes, ferns, or weeds, either on or near the ground. The eggs, 4 in number, are whitish, with dots and spots of chestnut or reddish brown, chiefly at the larger end. Size—.71 × .54.

Mr. Brewster speaks of these birds breeding in positive abundance on Mount Graylock, in western Massachusetts, but elsewhere in southern New England known only as a rare spring and still rarer autumn migrant.

681. Maryland Yellow-throat: Geothlypis trichas (Linn.)

Eggs white with fine specks and spots of chocolate brown, the spots not very numerous and mostly at the larger end.

See Page 69, Chapter II.

681b. Florida Yellow-throat: G. t. ignota Chapm.

Eggs similar to those of the preceding species.

See Page 70, Chapter II.

683. Yellow-breasted Chat: Icteria virens (Linn.)

Adult—Upper parts olive green ; white line from the bill to the eye ; white ring round the eye ; throat, breast, and upper part of belly bright yellow ; lower part of belly white, shading into gray at the sides. Length—7.44. Young birds are brownish gray, lighter on the breast, the yellow showing when they attain their full size.

Breeding Range—The Eastern States, from southern New England southward.

YELLOW-BREASTED CHAT'S NEST.

Placed in a wild rose bush.

The nest is large and compact, built of leaves, grass, and thin strips of bark, with the lining of fine grass. It is placed usually within four or five feet of the ground in the crotch of a small shrub, and occasionally in a tangle of vines. Number of eggs from 3 to 5; they are white or pinkish white, rather sparsely and evenly marked with reddish brown spots; the spots are rarely confined to the larger end. Size—.92 × .72. See Fig. 6, Plate D.

A chat's nest may be found hidden in the dense undergrowth of a clearing, in swampy places, or in any kind of open thicket.

It seems curious that, while the Chat is so crafty in hiding himself from view, he manifests but little skill in concealing his nest. By any one who does not object to penetrating the dense thickets of briers and undergrowth, the nest may be easily found, for it is large and usually but poorly concealed by leaves. The builder appears to rely almost entirely on the natural fence of growing barbed wire for protection from human enemies. The bird seems to glide off its nest without being seen or heard, and makes scarcely any commotion if the nest be disturbed. Young chats may be reared by hand and become fairly tame, but unfortunately they show too great an independence of spirit, and do not appear particularly desirous of human companionship.

During the breeding season, which begins about the middle of May, the chats may be heard giving voice to their varied notes, which can be readily imitated and will immediately attract the inquisitive bird. The song is frequently performed while the bird is in mid-air, not flying in an orthodox way, but flapping its wings in a most extraordinary manner, presenting more the appearance of a large moth than a bird. In the vicinity of New York the nesting season commences about the second week in May.

684. Hooded Warbler: Sylvania mitrata (Gmel.)

Adult ♂—Back, wings, and tail olive green; forehead and cheeks bright yellow; a black hood on head and neck, extending to the throat and upper part of breast; rest of under parts yellow.

Adult ♀—Very similar, the black hood being less defined. Length—5.67.

Breeding Range—The Eastern States, from southern Connecticut southward.

The nest is placed in low bushes or scrub within four feet, and sometimes within a few inches, of the ground. It is composed of leaves, shreds of bark, and scales of beech buds all compactly woven and secured together with spider webs ; the lining in some nests is entirely of horse or cattle hair ; others are found lined with fibres of grape-vine bark. 3 to 5 eggs are laid; they are white, with specks and spots of reddish brown and lilac often forming an irregular wreath at the larger end. Size—.71 × .52.

In damp woods, where the undergrowth is fairly dense, these warblers will be found nesting during the latter part of May or early in June.

687. American Redstart: Setophaga ruticilla (Linn.)

Adult ♂ — Upper parts black ; patch on the wing and basal half of tail feathers (except those in the middle) yellowish red ; under parts, throat and upper part of breast black; sides bright orange red ; belly white.

Adult ♀ — Upper parts greenish gray ; under parts white ; instead of orange yellow on the sides, wing, and tail, the female has light yellow. Length—5.41. See Fig. 6, Plate B.

Breeding Range—Throughout the Eastern States, from North Carolina northward.

The nest is placed either in a crotch or on a branch against the tree trunk, at a height of from five to thirty feet from the ground. It is a beautiful, neat, cup-shaped nest, about two inches inside diameter, and one inch deep. The materials used in its construction are fine dried grass, a silver-coloured vegetable fibre, plant down, and thin strips of bark, with a lining of fine grass and hair. 3 or 4 and sometimes 5 eggs are laid; they are white or whitish, with spots and small blotches of reddish brown and lilac chiefly at the larger end. Size—.66 × .51.

In the damp woodland these beautiful warblers may be seen darting through the rich mass of green foliage like tiny flashes of fire. The rare combination of black and flame colour, together with their habit of constantly spreading their tail, renders them easy of identification. They are seldom seen on the ground except when in search of food for their young. The breeding season begins towards the end of May.

CATBIRD'S NEST, WITH YOUNG

YOUNG CATBIRD AT TIME OF LEAVING NEST

NEST AND EGGS OF CATBIRD IN TANGLE OF VINES, THREE FEET FROM GROUND

703. Mocking-bird: Mimus polyglottos (Linn.)

Adult—Upper parts bluish or ashy gray; under parts buffy or grayish white.

Immature birds have the breast and sides spotted. Length—10.50.

Breeding Range—From southern Illinois and New Jersey (rarely Massachusetts) southward.

The nest is built of twigs, strips of bark, fine roots, weeds, and sometimes rags; the lining is of feathers, hair, and fine roots. It is placed either in a tangle of undergrowth or in trees such as the orange, cedar, water oak, etc. The eggs are pale green or buffy gray, with spots and blotches of reddish or yellowish brown. Size—.95 × .70. See Fig. 18, Plate D.

So well known is the Mocking-bird as a songster that but little need be said of it here. The young are easily reared, but my experience leads me to believe that they are not easily tamed; those that I have had were nervous and rather wild, and never cared to be handled even when quite young. I am rather surprised to see that certain writers speak of the immature mocking-bird as being similar to the adults. All those that I have reared have kept the spots on the breast until almost four months old. The breeding season begins early in May, and several broods are reared.

704. Catbird: Galeoscoptes carolinensis (Linn.)

Adult—Upper parts dark slaty gray; crown and tail dull black; under parts slaty gray; under tail coverts bright chestnut. Length—8.95.

Breeding Range—Throughout the Eastern States.

The nest is ragged but well made of sticks, leaves, fine roots, weeds, grass, strips of bark, and lined chiefly with fine roots. It is placed in briers or low bushes, usually not more than about seven feet from the ground. The eggs, 3 to 5 in number, are rather dark greenish blue. Size—.95 × .70. See Fig. 9, Plate D.

These well-named and well-known birds rank high in the list of our songsters; their song, which, though small in volume, is full of sweetness, may be heard at almost any time of day

and in almost any thicket. When the nest is threatened, the owners call together all the other catbirds in that particular thicket, and each one tries to outdo the other in vocal remonstrance.

Knowing them to be highly intelligent, I decided to rear one, thinking, of course, that he would make a delightful pet, but I never succeeded in determining whether the bird was extremely clever or entirely lacking in sense of any sort. His behaviour from the very beginning was a cause of surprise ; not a sound did he utter, even when hungry, and that was most unusual, as young birds are not renowned for their quietness. Then he was very late in learning to feed himself, far later than any of my other birds. But his most peculiar conduct was when he was taken out of his cage to fly about in the large wire enclosure; instead of taking advantage of this freedom, he instantly flew to the topmost part, and there sat by the hour immovable, looking much like an awkwardly mounted bird. During the two months I had him there was no change in his behaviour, and seeing nothing to be gained by keeping so uninteresting a pet, I set him free ; immediately his whole manner changed, and he resembled a real live catbird. With tail erect in proper catbird fashion, he commenced searching for insects, which previously he had never even noticed, so I decided after all that he was exceeding clever.

The breeding season commences about the middle of May, and two broods are frequently reared.

705. Brown Thrasher: Harporhynchus rufus (Linn.)

Eggs usually greenish with numerous small light brown spots.

See Page 50, Chapter I.

751. Blue-gray Gnatcatcher: Polioptila cærulea (Linn.)

Eggs white tinged with green or blue and spotted with various shades of brown.

See Page 174, Chapter IX.

YOUNG WOOD THRUSHES THE DAY OF LEAVING THEIR NEST

NEST OF WOOD THRUSH, WITH PIECES OF NEWSPAPER USED IN CONSTRUCTION

755. Wood Thrush: Turdus mustelinus Gmel.

Adult—Upper parts reddish brown or cinnamon, rump and tail less brilliant; under parts white tinged slightly with buff on the breast, and heavily marked with round black spots. Length—8.30.

Breeding Range—Throughout the Eastern States, northward from Virginia and Kentucky, rare north of Massachusetts.

The nest is bulky, somewhat deeper than the robin's, which it otherwise resembles. It is made of dead leaves (usually beech leaves), used chiefly as the foundation, weed stems, roots, mud, paper, rags, and sometimes snake-skin. It is placed either in a crotch or on a horizontal branch, usually within ten feet of the ground. 3 to 4, rarely 5, eggs are laid ; they are greenish blue, lighter and less green than those of the catbird. Size—1.05 × .70. See Fig. 11, Plate D.

Either in the woods, or in the shrubbery near the house, the Wood Thrush builds his nest, damp or dry places being indiscriminately chosen. During the period of incubation, which occupies twelve days, the parent bird sits closely and will allow the onlooker to approch within a few feet of the nest. The accompanying illustration was taken in the dark woods and an exposure of four seconds was made. So closely did the bird sit that I was able to secure three photographs, changing the plates and setting the shutter each time without disturbing the confiding mother, though the lens was not more than four feet from her nest. The young, which leave the nest when ten days old, are intensely nervous little fellows, and are difficult to photograph.

In the neighbourhood of New York the breeding season begins rather before the middle of May. Occasionally two broods are reared.

756. Wilson's Thrush; Veery: Turdus fuscescens Steph.

Eggs bluish green.

See Page 71, Chapter II.

757a. Bicknell's Thrush: Turdus aliciæ bicknelli (Ridgw.)

Adult—Upper parts rich olive; under parts white, slightly tinged on the breast with buff, shading into gray on the sides; throat, breast, and sides spotted with dark brown; ring round the eye dull white. Length—6.25 to 7.25.

Breeding Range—The mountainous regions of the Northeastern States.

The nest is placed in bushes or low trees, not far from the ground, usually in damp woods. It is composed of leaves, grass, moss, sticks, strips of bark, and lined with grass. The eggs are bluish green (darker than those of the olive-backed thrush), finely spotted with reddish brown. Size—.87 × .63.

This bird resembles closely the gray-cheeked thrush; it is somewhat smaller and brighter in colour.

758a. Olive-backed or Swainson's Thrush: Turdus ustulatus swainsonii (Cab.)

Adult—Upper parts dusky olive; under parts, breast, and throat buff; belly white; sides gray with blackish spots except on the belly; eye ring and lores buff. Length—7.17.

Breeding Range—In the higher mountains of Pennsylvania, and from northern New England northward. Mr. Brewster speaks of it breeding commonly on Mount Graylock in western Massachusetts.

The nest is placed in a bush or tree within ten feet of the ground. It is made of leaves, grass, twigs, moss, and fine roots, and is rather bulky. The eggs, 3 to 4 in number, are pale bluish green with specks or spots of light reddish brown and dull lilac. Size—.93 × .68.

The Olive-backed Thrush is an inhabitant of the secluded woods, and during the breeding season, which commences about the middle of June, they live almost exclusively in the regions where coniferous trees abound.

761. American Robin: Merula migratoria (Linn.)

Adult ♂—Head black with white eye ring; back slate colour; tail black with white tips at the ends of the outer feathers; throat

ROBIN ON HER NEST

YOUNG ROBIN ON DAY OF LEAVING NEST

nearly white, spotted and streaked with very dark slate colour ; breast and sides chestnut ; belly white.

Adult ♀—Less decided in colour, the head being dark slate colour. Length—10.00.

Breeding Range—Throughout the Eastern States, from Virginia and Kansas northward.

The nest, which is very bulky and sometimes rough in appearance, is formed of leaves, roots, and grasses (sometimes entirely of grass and mud), plastered together with an inner wall of mud, lined with fine grass. It is placed either on a branch or in a crotch at from four to thirty-five feet from the ground. The eggs are of a beautiful pale greenish blue, giving the name to the colour known as "robin's egg blue." Number of eggs, from 3 to 5. Size—1.15 × .80. See Fig. 10, Plate D.

During the breeding season the robins are probably the best known of our Eastern birds, as they build their nests quite frequently in the vines that grow on our verandas, and in the shrubs around the house. They do not then appear to fear man, and will perform their various domestic duties within a few feet of the onlooker. It is always interesting to watch the parent birds feeding their ever-hungry young; from early morn till nearly dark they keep up an almost incessant search for worms, which form the principal diet of the young. Owing to the size and to its being generally placed in a conspicuous situation, the robin's nest is by no means difficult to find. They usually build near cultivation, probably because they find it easier to obtain their supply of worms. The nest may be found in almost any sort of tree along the roadside, or on the outskirts of a wood. An apple orchard is an almost sure place, especially so if the trees be old.

The young leave the nest when about eleven days old. If taken even before they can fly, they are remarkably wild. In trying to photograph them I have experienced the utmost difficulty, as it is almost impossible to induce them to remain on a branch, or, in fact, in any place one may select. I know of no young birds that are so difficult to tame, except, perhaps, the various other varieties of thrushes. They appear to be delicate and are not easily reared.

The nesting season begins about the middle of April, and continues until well into July.

Chapter IX

NESTS SADDLED ON BRANCHES

428. Ruby-throated Humming-bird: Trochilus colubris Linn.

Adult ♂—Upper parts metallic green, wings and tail brownish; under parts, throat metallic red or deep orange red, breast and belly light gray shading into gray on the sides.

Adult ♀—Lacks the ruby throat. Length—3.74.

Breeding Range—Throughout the Eastern States.

The nest is, as Minot says, a perfect type of bird architecture. It is composed of woolly vegetable substance and other soft material, covered on the outside with small pieces of lichen, fastened on with spiders' or caterpillars' web or plant fibres. The nest is about three-quarters of an inch inside diameter, and usually rather more than half an inch deep (inside). It is saddled on the branch of a tree at from ten to fifty feet from the ground. There are instances on record of the nests having been found attached to tree trunks and on tall weeds. 2 white eggs are laid. Size—.50 × .30.

Of about four hundred species of humming-birds known to ornithology the Ruby-throat is the only variety found east of the Mississippi.

About the first week in May they arrive in the vicinity of New York, and begin nesting about three weeks later. The young remain in the nest for some three weeks.

459. Olive-sided Flycatcher: Contopus borealis (Swains.)

Adult—Upper parts olive brown; under parts, throat, belly, a line down the middle of the breast, and the flanks white, more or less tinged with lemon yellow; rest of under parts olive brown. Length—7.40.

NEST AND EGGS OF RUBY-THROATED HUMMING-BIRD

Natural size

WOOD PEWEE'S NEST

A good example of nest saddled on a branch

Breeding Range—From Pennsylvania, northern New Jersey, and Massachusetts northward.

The nest is of twigs, thin strips of bark, weed stalk, and lined with grass and moss. It is rather shallow, and is placed usually on a branch of an evergreen tree at some distance from the trunk, at a considerable height from the ground. The eggs, numbering from 3 to 4, and rarely 5, are creamy white, spotted, chiefly at the larger end, with reddish brown and dull lilac. Size—.82 × .62.

The breeding season commences late in May or early in June, according to locality.

461. Wood Pewee: Contopus virens (Linn.)

Adult—Upper parts dark olive brown, more or less tinged with dull green ; wings dull brown with two white bars ; under parts pale gray, slightly tinged with yellow. Length—6.50.
Breeding Range—Throughout the Eastern States.

The nest is a compact structure, with a thin floor and fairly thick low sides. It is composed of fine grass, moss, and strips of bark, with a coating of lichen fastened on the outside with fine webs, and is saddled on a branch or sometimes placed in a fork at from ten to fifty feet from the ground. Usually a large tree is chosen, and the nest is often placed near the extremity of a branch. 3 to 4 eggs are laid ; they are white or pale buff, with spots of various shades of brown and lilac forming a wreath about the larger end. Size—.70 × .54. See Fig. 1, Plate D.

These little flycatchers, who hide their nests so carefully on the branch of a tree, are found chiefly in the woods. Their peculiarly plaintive note sounds as though they were always brooding over some great sorrow, and yet there is no reason for supposing them less happy than others of the feathered tribes. Next to the phœbe, they are probably the tamest of the flycatchers. I have known one to build her nest within three feet of a window near which people frequently sat during many hours of the day, but she never seemed to object to the close scrutiny to which she was frequently subjected.

The breeding season begins from the latter part of May to the middle of June, according to locality.

467. Least Flycatcher: Empidonax minimus Baird

Adult—Upper parts olive ; under parts pale gray, slightly tinged with yellow on the belly. Length—5.40.
Breeding Range—From Pennsylvania and New Jersey northward.

The nest, which is either saddled on a branch or placed in a crotch at from seven to twenty-five feet from the ground, is a neat structure of soft plant fibre, fine grass, thin strips of bark, and hair ; some nests are built entirely of grass and strips of bark, with no soft materials. The eggs, which number from 3 to 4, and very rarely 5, are buff or white. Size—.62 × .50.

These, the smallest of our flycatchers, are found in abundance throughout their range, though their distribution is somewhat local. Apple orchards seem to be their favourite nesting places. I have found no less than four of these nests in one small orchard containing not more than thirty trees.

The breeding season begins in central New Jersey about the second week in May.

751. Blue-gray Gnatcatcher: Polioptila cœrulea (Linn.)

Adult ♂—Upper parts bluish gray, a black band on the forehead ; tail, middle feathers black, outer one white, the intermediate feathers shading from dark to light gray.
Adult ♀—Lacks the black on the forehead, but is otherwise similar. Length—4.50.
Breeding Range—From the Southern States northward, on the coast, to Connecticut; of accidental occurrence in Maine, and inland to the Great Lakes.

The nest is a delicately built cup-like structure, about one and a half inches deep inside, and is composed of leaf stems, plant fibre, hair, grass, and thin strips of bark. The lining is of woolly plant substances, and the outside is usually decorated with small pieces of lichen. It is placed either in a crotch or saddled on a branch at from ten to fifty feet from the ground ; fifteen or twenty feet is the usual height. The eggs, 4 or 5 in number, are very pale green or blue, with numerous specks and spots of chestnut and brown. Size—.57 × .45.

The Blue-gray Gnatcatcher is an energetic, busy little fellow who lives in the woods, usually preferring those that are somewhat damp. He commences building during the month

NEST OF LEAST FLYCATCHER.

Saddled on branch of an apple tree.

of May, and his dainty nest, which viewed from below resembles a knotty excrescence, is difficult to find.

761. American Robin: Merula migratoria (Linn.)

Eggs greenish blue.

See Page 170, Chapter VIII.

---

495. Cowbird: Molothrus ater (Bodd.)

Adult ♂—Lustrous black with metallic sheen; head, neck, and upper part of breast snuff colour.

Adult ♀—Dull brown, lightest on the throat. Length—7.90.

Breeding Range—Throughout the Eastern States; rare in the higher parts of Massachusetts.

The eggs, which are invariably laid in the nests of other birds, are dull white, sprinkled more or less thickly with small brown and faint lilac spots. Number undetermined. Size—.85 × .65. See Fig. 19, Plate D.

The Cowbird (named from the habit of perching on cattle) has, I fear, earned a bad reputation for herself, through the habit of laying her eggs in the nests of other birds. Why she does so is not known, but we can be certain there is some good reason for an act which seems entirely contrary to nature. The nest of almost any of the smaller birds is chosen, such as that of the yellow warbler, worm-eating warbler, blue-winged warbler, bluebird, and any of the sparrows or vireos. Minot thought that the eggs were not laid in the nest, but outside, and then carried to it. I have, however, seen the cowbird on the nest, and have every reason to believe she had laid her egg there.

Eggs are laid from about the middle of May.

Ilk happy bird, wee helpless thing,
That in the weary months o' spring
Delighted me to hear thee sing,
What's come o' thee?
Whare wilt thou cower thy chittering wing
And close thy e'e?

—Burns.

INDEX TO COMMON NAMES

B

Baldpate, see White-crowned Pigeon, 132.
Blackbird, Crow, 140.
Florida Red-wing, 78.
Red-winged, 77.
Bluebird, 112.
Bobolink, 41.
Bob-white, 35.
Florida, 36.
Bull-bat, 39.
Bunting, Bay-winged, 42.
Black-throated, 50.
Indigo, 150.
Painted, 151.
Butcher-bird, 153.
Buzzard, Turkey, 57.

C

Canary (wild), 155.
Caracara, Audubon's, 128.
Cardinal, 147.
Florida, 148.
Catbird, 167.
Cedar-bird, 152.
Chat, Yellow-breasted, 164.
Chebec, see Least Flycatcher, 173.
Cherry-bird, see Cedar-bird, 152.
Chewink, 64.
White-eyed, 64.
Chicadee, 111.
Carolina, 112.
Hudsonian, 112.
Chippy, 145.
Chuck-will's-widow, 59.
Clape, see Flicker, 104.
Cowbird, 175.
Creeper, Black and White, 65.
Brown, 108.
Crossbill, American, 142.
Red, 142.
White-winged, 143.
Crow, American, 131.
Fish, 131.
Florida, 131.
Cuckoo, Black-billed, 135.
Mangrove, 134.
Maynard's, 134.
Yellow-billed, 135.

D

Dickcissel, 50.
Dove, Carolina, 133.
Ground, 56.
Mourning, 56–133.
Quail, 133.
Zenaida, 133.

E

Eagle, Bald, 128.
Golden, 81.

F

Falcon, Peregrine, 81.
Finch, Grass, see Vesper Sparrow, 42.
Lark, 47.
Pine, 144.
Purple, 142.
Firebird, see Baltimore Oriole, 115.
Flicker, 104.
Florida Red-wing, 78.
Yellow-throat, 70.
Flycatcher, Acadian, 114.
Alder, 137.
Canada, 92.
Crested, 105.
Green-crested, 114.
Great Crested, 105.
Least, 174.
Olive-sided, 172.
Traill's, see Alder Flycatcher, 137.
Yellow-bellied, 86.

G

Gnatcatcher, Blue-gray, 174.
Golden-crowned Thrush, 75.
Goldfinch, American, 143.
Goshawk, American, 124.
Grackle, Boat-tailed, 141.
Bronzed, 141.
Florida, 140.
Purple, 140.
Grosbeak, Blue, 149.
Pine, 141.
Rose-breasted, 148.

Grouse, Canada, 52.
Canadian Ruffed, 54.
Ruffed, 53.

H

Harrier, Marsh, 37.
Hawk, American Sparrow, 96.
Broad-winged, 127.
Cooper's, 124.
Duck, 81.
Fish, 129.
Florida Red-shouldered, 126.
Harlan's, 125.
Marsh, 37.
Meat, see Canada Jay, 139.
Pigeon, 82.
Red-shouldered, 126.
Red-tailed, 125.
Sharp-shinned, 123.
Short-tailed, 127.
Snail, 77.
Sparrow, 96.
Swainson's, 126.
Heath Hen, 54.
Hen, Heath, 54.
Prairie, 36.
High-hole, see Flicker, 104.
Humming-bird, Ruby-throated, 172.

I

Indigo-bird, 150.

J

Jack, Whiskey, 139.
Jay, Blue, 138.
Canada, 139.
Florida, 139
Florida Blue, 138.
Scrub, 139.
Joree, 64.
Junco, 61.
Carolina, 61.
Slate-coloured, 61.

K

Kingbird, 136.
Gray, 137.
Kingfisher, Belted, 83.
Kinglet, Golden-crowned, 120.
Ruby-crowned, 121.
Kite, Everglade, 77.
Mississippi, 123.
Swallow-tailed, 122.
White-tailed, 122

L

Lark, Field, see Meadowlark, 73.
Meadow, 73.
Prairie Horned, 40.
Loggerhead Shrike, 153.

M

Marsh Wren, Long-billed, 79.
Marian's, 80.
Short-billed, 79.
Worthington's, 80.
Martin, Cuban, 88.
Purple, 87.
Maryland Yellow-throat, 69.
Meadowlark, 73.
Meathawk, 139.
Mockingbird, 167.
Moosebird, 139.

N

Night-hawk, 39.
Florida, 40.
Nuthatch, Brown-headed, 110.
Florida White-breasted, 109.
Red-breasted, 109.
White-breasted, 109.

O

Oriole, Baltimore, 115.
Orchard, 115.
Osprey, American, 129.
Oven-bird, 75.
Owl, Acadian, 98.
American Barn, 82.
American Long-eared, 129.
Barn, 82.
Barred, 97.
Florida Barred, 98.
Florida Burrowing, 83.
Florida Screech, 99.
Great Horned, 130.
Long-eared, 129.
Monkey-faced, see Barn Owl, 82.
Saw-whet, 98.
Screech, 98.
Short-eared, 38.

P

Palmetto Bird, 70.
Paroquet, Carolina, 134.
Partridge, 53.
Spruce, 52.
Peabody-bird, 60.
Pewee, Wood, 173.
Phœbe, 85.
Pigeon, Passenger, 132.
White-crowned, 132.
Wild, 132.
Prairie Hen, 36.

Q

Quail, 35.
Florida, 36.

R

Raven, Northern, 86.
Redbird, 151.
Summer, 152.
Redstart, American, 166.
Redwing, Florida, 78.
Reedbird, see Bobolink, 41.
Ricebird, see Bobolink, 41.
Robin, American, 170.
Ground, see Cheewink, 64.

S

Sapsucker, Yellow-bellied, 103.
Shrike, Loggerhead, 153.
Siskin, Pine, 144.
Snowbird, 61.
Carolina, 61.
Sparrow, Bachman's, 74.
Chipping, 145.
Clay-coloured, 146.
English, 87.
Field, 48.
Grasshopper, 44.
Henslow's, 44.
Lark, 47.
Lincoln's, 62.
Pine-woods, 62.
Savanna, 43.
Scott's Seaside, 46.
Seaside, 46.
Sharp-tailed, 45.
Song, 49.
Swamp, 63.
Vesper, 42.
White-throated, 60.
Yellow-winged, 44.
Swallow, Bank, 90.
Barn, 89.
Chimney, 84.
Cliff, 88.
Eave, 88.
Rough-winged, 90.
Tree, 89.
White-bellied, 89.
Swift, Chimney, 84.

T

Tanager, Scarlet, 151.
Summer, 152.
Thistle-bird, see Goldfinch, 143.
Thrasher, Brown, 50.
Thrush, Bicknell's, 170.
Brown, see Brown Thrasher, 50.
Golden-crowned, 75.
Grinnell's Water, 91.
Hermit, 72.
Large-billed Water, 92.
Louisiana Water, 92.
Olive-backed, 170.
Swainson's, 170.
Water, 91.
Wilson's, 71.
Wood, 169.
Titmouse, Tufted, 110.
Towhee, 64.
White-eyed, 64.
Turkey Buzzard, 57.
Turkey, Florida Wild, 55.
Wild, 55.

V

Veery, 71.
Vireo, Black-whiskered, 116.
Blue-headed, 118.
Key West, 120.
Mountain Solitary, 119.
Philadelphia, 117.
Red-eyed, 117.
Solitary, 118.
Warbling, 118.
White-eyed, 119.
Yellow-throated, 118.
Vulture, Black, 58.
Turkey, 57.

W

Warbler, Bachman's, 154.
Bay-breasted, 159.
Black and White, 65.
Black and Yellow, 157.
Blackburnian, 160.
Blackpoll, 160.
Black-throated Blue, 156.
Black-throated Green, 162.
Blue-winged, 66.
Blue Yellow-backed, 120.
Brewster's, 68.
Canadian, 92.
Cerulean, 158.
Chestnut-sided, 159.
Golden-winged, 67.
Hooded, 165.
Kentucky, 69.
Lawrence's, 68.
Magnolia, 157.
Mourning, 164.
Myrtle, 157.
Nashville, 68.

Warbler, Parula, 120.
Pine, 163.
Prairie, 163.
Prothonotary, 107.
Summer, 155.
Swainson's, 154.
Sycamore, 162.
Tennessee, 155.
Worm-eating, 65.
Yellow, 155.
Yellow-rumped, 157.
Yellow-throated, 161.
Water-thrush, 91.
Grinnell's, 91.
Large-billed, 92.
Louisiana, 92.
Waxwing, Cedar, 152.
Whip-poor-will, 59.
Whiskey Jack, 139.
Woodpecker, American Three-toed, 102.
Arctic Three-toed, 102.
Banded Three-toed, 102.
Downy, 101.
Golden-winged, 104.
Woodpecker, Hairy, 100.
Ivory-billed, 100.
Pileated, 103.
Red-bellied, 104.
Red-cockaded, 101.
Red-headed, 103.
Southern Downy, 101.
Southern Hairy, 101.
Wren, Bewick's, 93.
Carolina, 93.
Florida, 93.
House, 94.
Long-billed Marsh, 79.
Marian's Marsh, 80.
Short-billed Marsh, 79.
Winter, 94.
Worthington's, 80.

Y

Yellow-bird, 143–155.
Yellow-hammer, see Flicker, 104.
Yellow-throat, Florida, 70.
Maryland, 69.

INDEX TO SCIENTIFIC NAMES

A

Accipiter atricapillus, 124.
cooperii, 124.
velox, 123.
Agelaius phœniceus, 77.
phœniceus bryanti, 78.
Ammodramus caudacutus, 45
henslowii, 44.
maritimus, 46.
maritimus peninsulæ, 46.
sandwichensis savanna, 43.
savannarum passerinus, 44.
Ampelis cedrorum, 152.
Antrostomus carolinensis, 59.
vociferus, 59.
Aphelocoma floridana, 139.
Aquila chrysaëtos, 81.
Asio accipitrinus, 38.
wilsonianus, 129.

B

Bonasa umbellus, 53.
umbellus togata, 54.
Bubo virginianus, 130.
Buteo borealis, 125.
borealis harlani, 125.
brachyurus, 127.
latissimus, 127.
lineatus, 126.
lineatus alleni, 126.
swainsoni, 126.

C

Campephilus principalis, 100.
Cardinalis cardinalis, 147.
cardinalis floridanus, 148.
Carpodacus purpureus, 142.
Catharista atrata, 58.
Cathartes aura, 57.
Ceophlœus pileatus, 103.
Certhia familiaris americana, 108.
Ceryle alcyon, 83.
Chætura pelagica, 84.
Chelidon erythrogaster, 89.
Chondestes grammacus, 47.
Chordeiles virginianus, 39.
virginianus chapmani, 40.
Circus hudsonius, 37.
Cistothorus palustris, 79.
palustris griseus, 80.
palustris marianæ, 80.
stellaris, 79.
Clivicola riparia, 90.
Coccyzus americanus, 135.
erythrophthalmus, 135.
minor, 134.
minor maynardi, 134.
Colaptes auratus, 104.
Colinus virginianus, 35.
virginianus floridanus, 36.
Columba leucocephala, 132.
Columbigallina passerina terrestris, 56.
Compsothlypis americana, 120.
Contopus borealis, 172.
virens, 173.
Conurus carolinensis, 134.
Corvus americanus, 131.
americanus floridanus, 131.
Corvus corax principalis, 86.
ossifragus, 131.
Cyanocitta cristata, 138.
cristata florincola, 138.

D

Dendragapus canadensis, 52.
Dendroica æstiva, 155.
blackburniæ, 160.
cærulea, 158.
cærulescens, 156.
castanea, 159.
coronata, 157.
discolor, 163.
dominica, 161.
dominica albilora, 162.
maculosa, 157.
pensylvanica, 159.
striata, 160.
vigorsii, 163.
virens, 162.
Dolichonyx oryzivorus, 41.
Dryobates borealis, 101.

Dryobates pubescens, 101.
pubescens medianus, 101.
villosus, 100.
villosus audubonii, 101.

E

Ectopistes migratorius, 132.
Elanoides forficatus, 122.
Elanus leucurus, 122.
Empidonax flaviventris, 86.
minimus, 174.
traillii alnorum, 137.
virescens, 114.

F

Falco columbarius, 82.
peregrinus anatum, 81.
sparverius, 96.

G

Galeoscoptes carolinensis, 167.
Geothlypis formosa, 69.
philadelphia, 164.
trichas, 69.
trichas ignota, 70.
Geotrygon martinica, 133.
Guiraca cærulea, 149.

H

Habia ludoviciana, 148.
Haliæetus leucocephalus, 128.
Harporhyncus rufus, 50.
Helinaia swainsonii, 154.
Helminthophila bachmani, 154.
chrysoptera, 67.
lawrencei, 68.
leucobronchialis, 68.
peregrina, 155.
pinus, 66.
ruficapilla, 68.
Helmitherus vermivorus, 65.

I

Icteria virens, 164.
Icterus galbula, 115.
spurius, 115.
Ictina mississippiensis, 123.

J

Junco hyemalis, 61.
hyemalis carolinensis, 61.

L

Lanius ludovicianus, 153.
Loxia curvirostra minor, 142.
leucoptera, 143.

M

Megascops asio, 98.
asio floridanus, 99.
Melanerpes carolinus, 104.
erythrocephalus, 103.
Meleagris gallopavo, 55.
gallopavo osceola, 55.
Melospiza fasciata, 49.
georgiana, 63.
lincolni, 62.
Merula migratoria, 170.
Mimus polyglottos, 167.
Mniotilta varia, 65.
Molothrus ater, 175.
Myiarchus crinitus, 105.

N

Nyctala acadica, 98.

O

Otocoris alpestris praticola, 40.

P

Pandion haliaëtus carolinensis, 120.
Parus atricapillus, 111.
bicolor, 110.
carolinensis, 112.
hudsonicus, 112.
Passer domesticus, 87.
Passerina ciris, 151.
cyanea, 150.
Perisoreus canadensis, 139.
Petrochelidon lunifrons, 88.
Peucæa æstivalis, 62.
æstivalis bachmani, 74.
Picoides americanus, 102.
arcticus, 102.
Pinicola enucleator, 141.
Pipilo erythrophthalmus, 64.
erythrophthalmus alleni, 64.
Piranga erythromelas, 151.
rubra, 152.
Polioptila cærulea, 174.
Polyborus cheriway, 128.
Poocætes gramineus, 42.
Progne cryptoleuca, 88.
subis, 87.
Protonotaria citrea, 107.

Q

Quiscalus major, 141.
quiscula, 140.
quiscula æneus, 141.
quiscula aglæus, 140.

R

Regulus calendula, 121.
satrapa, 120.
Rostrhamus sociabilis, 77.

S

Sayornis phœbe, 85.
Seiurus aurocapillus, 75.
motacilla, 92.
noveboracensis, 91.
noveboracensis notabilis, 91.
Setophaga ruticilla, 166.
Sialis sialis, 112.
Sitta canadensis, 109.
carolinensis, 109.
Sitta carolinensis atkinsi, 109.
pusilla, 110.
Speotyto cunicularia floridana, 83.
Sphyrapicus varius, 103.
Spinus pinus, 144.
tristis, 143.
Spiza americana, 50.
Spizella pallida, 146.
pusilla, 48.
socialis, 145.
Stelgidopteryx serripennis, 90.
Strix pratincola, 82.
Sturnella magna, 73.
Sylvania canadensis, 92.
mitrata, 165.
Syrnium nebulosum, 97.
nebulosum alleni, 98.

T

Tachycineta bicolor, 89.
Thryothorus bewickii, 93.
ludovicianus, 93.
ludovicianus miamensis, 93.
Trochilus colubris, 172.
Troglodytes, aëdon, 94.
hiemalis, 94.
Turdus aliciæ bicknelli, 170.
aonalaschkæ pallasii, 72.
fuscescens, 71.
mustelinus, 169.
ustulatus swainsonii, 170.
Tympanuchus americanus, 36.
cupido, 54.
Tyrannus dominicensis, 137.
tyrannus, 136.

V

Vireo calidris barbatulus, 116.
flavifrons, 118.
gilvus, 118.
noveboracensis, 119.
noveboracensis maynardi, 120.
olivaceus, 117.
philadelphicus, 117.
solitarius, 118.
solitarius alticola, 119.

Z

Zenaida zenaida, 133.
Zenaidara macroura, 133.
Zonotrichia albicollis, 60.

8171-2
74-92T

QL
675
.D87

Dugmore
Bird homes

10646